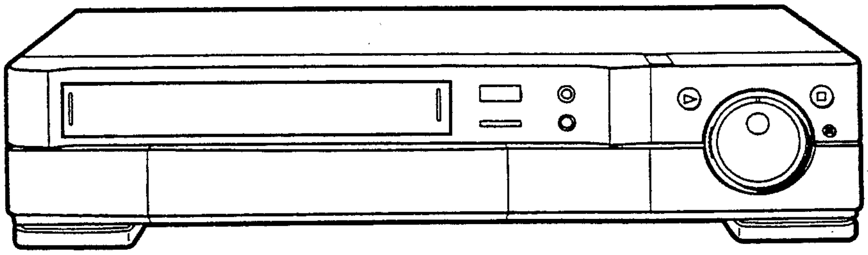
1993

MITSUBISHI

Service Manual

VIDEO CASSETTE RECORDER

VHS
PAL



MODEL
HS-M58(EE)

Only cassettes marked VHS can be used with this video cassette recorder.

SPECIFICATION

Tape Format : VHS 1/2" high-density video cassette tape
Power Source : AC 230V ; 50Hz
Power Consumption : Approx. 33W
Television System : 625lines, 50fields System CCIR B&G PAL
Video Recording System : Azimuth helical scanning system
Luminance : Frequency modulation recording
Colour Signal : Low frequency conversion subcarrier phase shift recording
Hi-Fi Audio Recording System : Azimuth helical scanning system, Frequency modulation recording, deep layer recording
Linear Audio Track : 1 track
Tape Speed : 23.39mm/sec(PAL SP mode) 11.70mm/sec(PAL LP mode)
Record/Playback Time : 240min. with E-240 cassette (PAL SP mode)
: 480min. with E-240 cassette (PAL LP mode)
Heads: Video : 4 rotary heads
Hi-Fi Audio : 2 rotary heads
Audio/Control : 1 stationary head
Erase : 1 full track head

Video Input : 0.75 to 1.5Vp-p, 75Ω unbalanced EURO AV socket
Audio Input:Line : –8dBs, 50kΩ unbalanced EURO AV socket and RCA pin plug
Video Output : 1.0Vp-p, 75Ω unbalanced EURO AV socket
Audio Output : –6dBs, 1kΩ unbalanced EURO AV socket and RCA pin plug
TV Tuner
VHF : 47~118MHz, 118~300MHz
UHF : 470~870MHz
Operating Temperature : 5°C to 40°C
RF Channel Output : Set to Channel Channel 36 (Channel 32~40 selectable)
Weight : Approx. 6.0kg
Dimensions : 425(W) × 96(H) × 324(D)mm
Timer : 8 programes for any channels in one month/every day/every week day
24 hour digital synchronized with oscillator frequency.
Channel Selection : 100 position Up/Down + EXT
Deck : F Deck

●Weight and dimensions shown are approximate.
●Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC

CONTENTS

DISASSEMBLY 1
HOW TO EXECUTE CIRCUIT BOAD SERVICE 2
MECHANICAL ADJUSTMENT TOOLS 5
ELECTRICAL ADJUSTMENT TOOLS 6
ELECTRICAL ADJUSTMENT 7
  LOCATIONS 8
  Servo Circuit Adjustment 11
  Y/C signal Circuit Adjustments 11
  Audio Circuit Adjustment 14
  Hi-Fi Circuit Adjustments 15
  Timer Circuit Adjustment 16

MECHANICAL ADJUSTMENT AND REPLACEMENT 18
1.Cleaning of Deck 18
  1-1 Video Head 18
  1-2 Tape Transport 18
  1-3 Reel Disk Drive System 18

2.Replacement of Major Parts 19
  2-1 Cassette Housing 19
  2-2 Lock arm and Driver 19
  2-3 Drum Assembly 20
  2-4 Upper Drum 21
  2-5 Reel Belt 21
  2-6 Capstan Motor 21
  2-7 Loading Motor 22
  2-8 Pinch Roler 23
  2-9 Mode Switch 24
  2-10 Supply Reel Disk 24
  2-11 Takeup Reel Disk 27
  2-12 A/C Head 29
  2-13 Takeup Guide Arm 29
  2-14 PCB Deck 30
  2-15 Positioning and Installation Sequence of Parts Around Main Cam 1 31
  2-16 Supply and Takeup Guide Rollers 33
  2-17 Supply and Takeup Tape Guide Assemblies 33

3.Interchangeability Adjustment of Mechanism .. 35
  3-1 Adjustment of Back Tension and Tension Pole Position 35
  3-2 Check and Adjustment of FM Envelope 36
  3-2-1 Guide Roller Adjustment 36
  3-2-2 Adjustment of Supply Guide roller Height 36
  3-2-3 Adjustment of Takeup Guide roller Height 36
  3-2-4 Coarse Phese Adjustment 37
  3-2-5 Check of FM Waveform Flatness 37
  3-2-6 Check 1:Tape Running Condition on Guide Roller 38
  3-2-7 Replacement of Tape Guide 38
  3-2-8 Check 2:Tape Running Condition on Guide Roller 38
  3-3 Adjustment of Audio/Control Head 39
  3-3-1 Adjustment of A/C Head Slant 39
  3-3-2 Adjustment of A/C Head Azimuth and Height 39
  3-3-3 Replacement of Tape Guide 40
  3-4 Phese Adjustment 40
  3-5 Adjustment of Takeup Guide Arm Height .. 40

CHIP PARTS REPLACEMENT 41
KEY TO ABBREVIATIONS 43
Parts List 44
  1.CABINET ASSEMBLY 44
  2.PACKING PARTS 46
  3.ELECTRICAL PARTS 48
  4.DECK ASSEMBLY

CIRCUIT DIAGRAMS

DISASSEMBLY

1. Removal of Top Cover

A. Remove the four screws (ⓐ~ⓓ), as shown in Fig. 1.

B. Gently expand the bottom edges of the top cover, then slide toward rear in the direction of the allows.

2. Removal of Front Panel

A. Remove the top cover.

B. Unfasten the six snaps (ⓔ~ⓙ), and remove the front panel in the direction of the arrows.

3. Installation of Front Panel

A. While holding the Cassette Door open, mount the Front Panel to the VCR and fasten the six snaps (ⓔ~ⓙ) using gently pressure to the Front Panel.

4. Removal of Bottom Cover

A. Remove the twelve screws (ⓚ~ⓥ)

B. Remove the bottom cover by sliding toward the rear side and pulling outward.

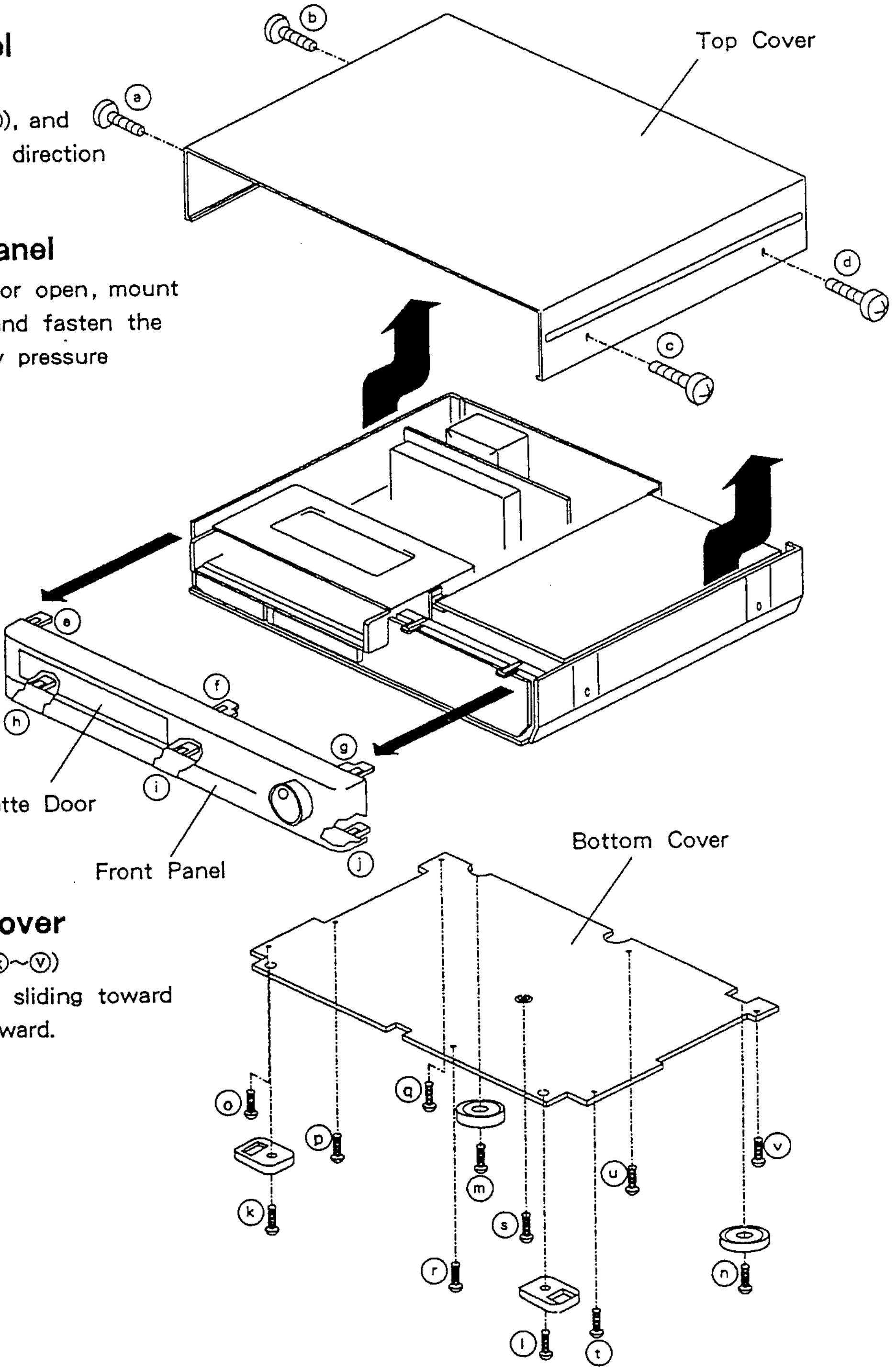


Fig. 1

HOW TO EXECUTE CIRCUIT BOARD SERVICE

CAUTION : BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB UNPLUG THE A.C. SOURCE

Location of Printed Circuit Boards (Refer to Fig. 2)

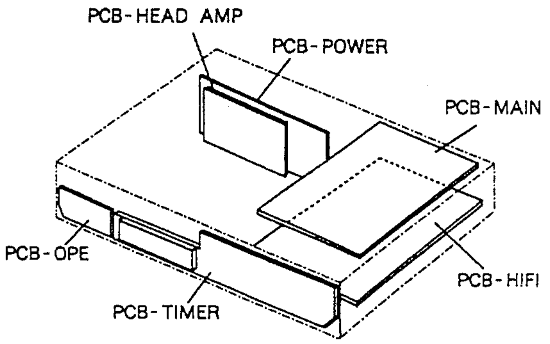

PCB-HEAD AMP
PCB-POWER
PCB-MAIN
PCB-OPE
PCB-HIFI
PCB-TIMER

Fig. 2

NOTE :
Use caution when disconnecting the flat cable connectors to avoid possible contact problems when reconnected.

1. Removal of PCB-MAIN

A. Remove the top cover.(Page 1, Item 1)
B. Remove the five screws (ⓐ~ⓔ), as shown in Fig. 3.
C. Rotate the PCB-MAIN in the direction of the arrow.
D. Hang the edge of PCB-MAIN to the holder on the frame.

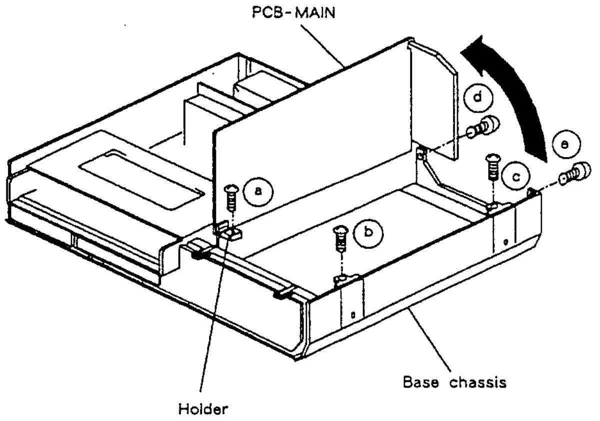

PCB-MAIN
ⓓ
ⓔ
ⓐ
ⓒ
ⓑ
Base chassis
Holder

Fig. 3

2. Removal of PCB-HIFI

A. Remove the bottom cover (Page 1 Item 4) and the service of the PCB-HIFI will be available.
B. If it is necessary to remove the PCB-HIFI comply with the following steps.
   a. Remove the PCB-MAIN. (Item 1)
   b. Remove the two screws (ⓐandⓑ) retaining the PCB-HIFI , as shown in Fig. 4.

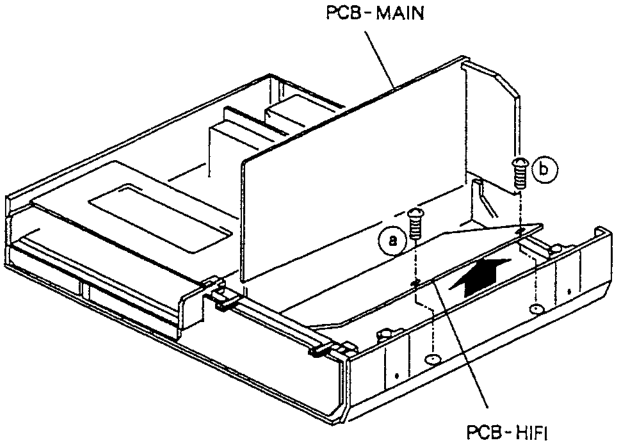

PCB-MAIN
ⓑ
ⓐ
PCB-HIFI

Fig. 4

3. Removal of PCB-HEAD AMP

A. Remove the top cover. (Page 1, Item 1)

B. Lift the shield cover upward to remove it.

C. Disconnect the FPC cable by gently pulling cover of the connector GB, as in Fig. 5.

D. Remove three screws (ⓐ ~ ⓒ) retaining the lead wire and the PCB-HEAD AMP.

Service of PWB

- Pull off six catches on the lead cover to remove it fixed on the shield case ⓐ, as shown in Fig. 6.
- Pull off the top and bottom stoppers to remove the shield case ⓐ.
- Unsolder four soldering points to remove the shield case ⓑ from the PWB. Service on the component side is possible in this state.

NOTE :

To service, with power on, use the Extention Cord (859C344040) and ground the lead wire with a short lead.

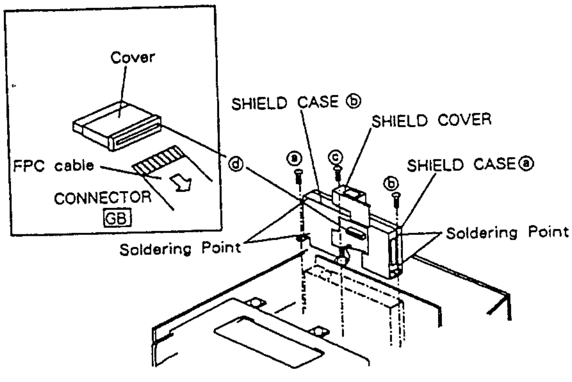

Cover
FPC cable
CONNECTOR
GB
Soldering Point
ⓓ
ⓐ
ⓒ
SHIELD CASE ⓑ
SHIELD COVER
SHIELD CASE ⓐ
ⓑ
Soldering Point

Fig. 5

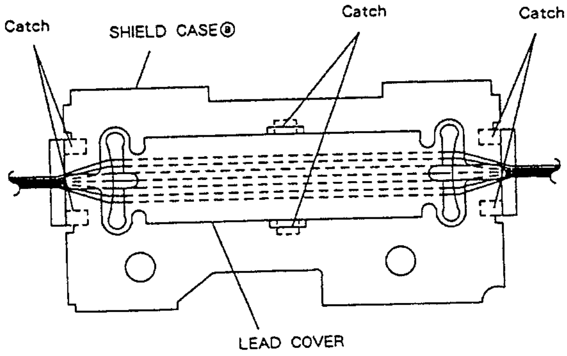

Catch
SHIELD CASE ⓐ
Catch
Catch
LEAD COVER

Fig. 6

4. Removal of PCB-OPE and PCB-TIMER

A. Remove the Front Panel. (Page 1, Item 2)

B. Remove two screws (ⓐ, ⓑ) and unfasten four snaps (ⓒ~ⓕ), as shown in Fig. 7.

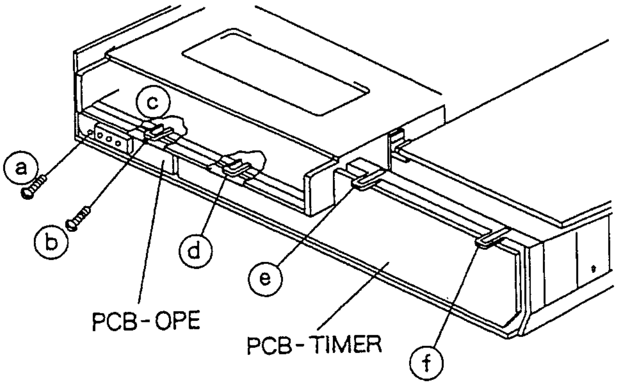

ⓒ
ⓐ
ⓑ
ⓓ
ⓔ
PCB-OPE
PCB-TIMER
ⓕ

Fig. 7

5. Removal of PCB-POWER and PCB-POWER SUB

A. Removal the top cover. (Page 1, Item 1)
B. Remove three screws (ⓐ~ⓒ) retaining the PCB-POWER and two screws (ⓓ, ⓔ) retaining the heat sink as shown in Fig. 8.
C. Remove the holder of AC power cord from the base chassis.
D. Unfasten three hooks (ⓕ~ⓗ) retaining the PCB-POWER SUB as shown in Fig. 9.

CAUTION :

Power regulators are damaged if power supply is turned on without installing the heat sink.

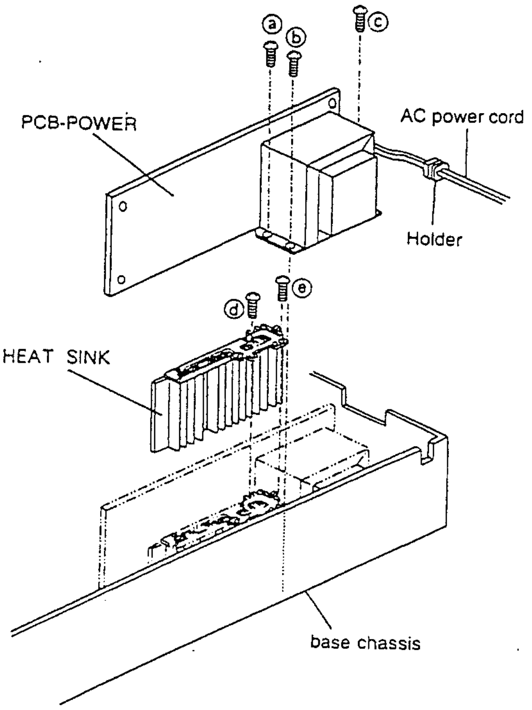

ⓐ
ⓑ
ⓒ
PCB-POWER
AC power cord
Holder
ⓓ
ⓔ
HEAT SINK
base chassis

Fig. 8

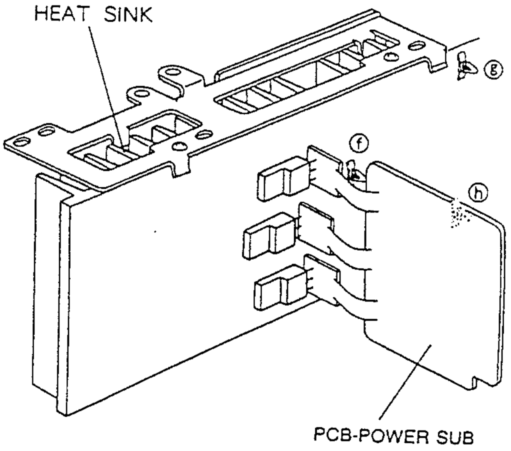
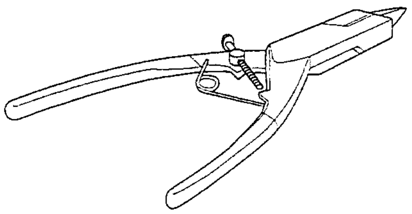
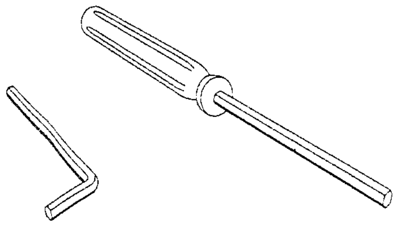
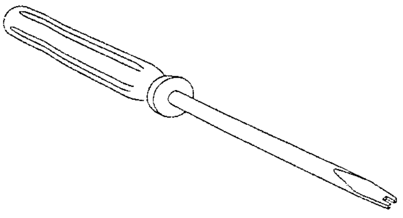
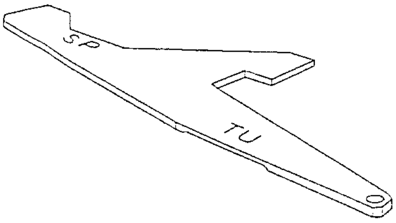
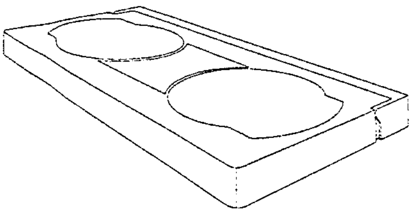
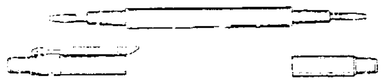
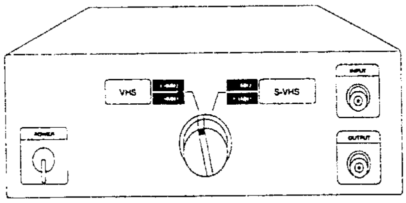
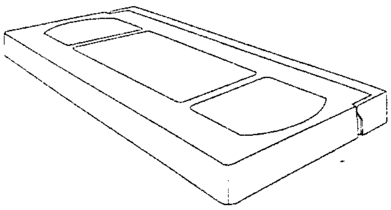
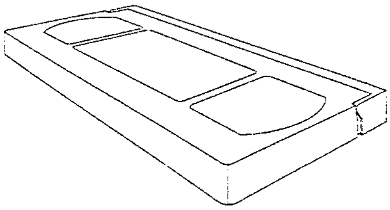

HEAT SINK
ⓖ
ⓕ
ⓗ
PCB-POWER SUB

Fig. 9

MECHANICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Grip ring fixer **(859C347050)** 	A tool for preventing the grip ring from opening excessively.	Opening the grip ring with the tips of this tool,install the grip ring on to the shaft.
Hex Keys(1.5mm)  **(859C259020)** **(859C259050)**	The hex keys are used for tightening or removing hexagonal socket head screws whitch fasten the guide rollers.	Insert the given size(1.5mm) hexagonal socket and turn.
AdjustmentDriver **(859C259080)** 	For adjustment of guide rollers.	Carefully insert and adjust guide rollers.
Reel disk Adj.Jig **(859C342020)**  	The height gauge is used for measuring height and parpendicularity of the reel disk and Takeup guide arm.	The gauge is applied to the part being measured.
Back Tension Gauge **(859C345080)** 	The back tension gauge is used for measuring the tension of the tape on the supply side.	Load this gauge in the cassette housing and run in the play mode. Read the guage indictor.
Extension Cord **(859C344040)**	For PCB-HEAD AMP service	Use when repair of the PCB-HEAD AMP is necessary.
Cotton gloves	For changing,cleaning and handling of drum,heads and guides.	Use when handling all parts in the tape path.

ELECTRICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver (859C338000) 767-M 	The adjustment driver is intended to adjust variable resistors, trimmers, transformers etc.in the circuitry.	Select a tip suitable for the particular head of the component concerned and adjust.
Carrier Checker (859C346050) 	Used for the adjustment or inspection of the carrier set deviation.	Use in conjunction with the oscilloscope. For detail refer to the service manual or the attached data.
Alignment Tape (PS-2 :859C339010) **(PC1KS :859C339070)** **(NS-1 :859C339000)** 	Standard signals(VHS Standard) are recorded on the alignment tape and reproduced when required in the adjustment of Y/C circuit,audio circuit and interchangeability alignment.	Install and run in the play mode, the same as for an ordinary tape.
Alignment Tape (PM1KH3 :859C339030) 	For adjusting the switching point of FM audio.The Video signal can also be used for interchangeability adjustment of SP/LP mode.	Install the tape and run the recorder in the play mode. The same as for an ordinary tape.
Record Current Adjustment Jig (859C347080)	For Y/C Recording Level and Hi-Fi FM Recording Level.	For Y/C Recording Level and Hi-Fi FM Recording Level adjustment.

Electrical Adjustment

Perform only the alignments required. If proper equipment is not available,do not attempt an alignment.

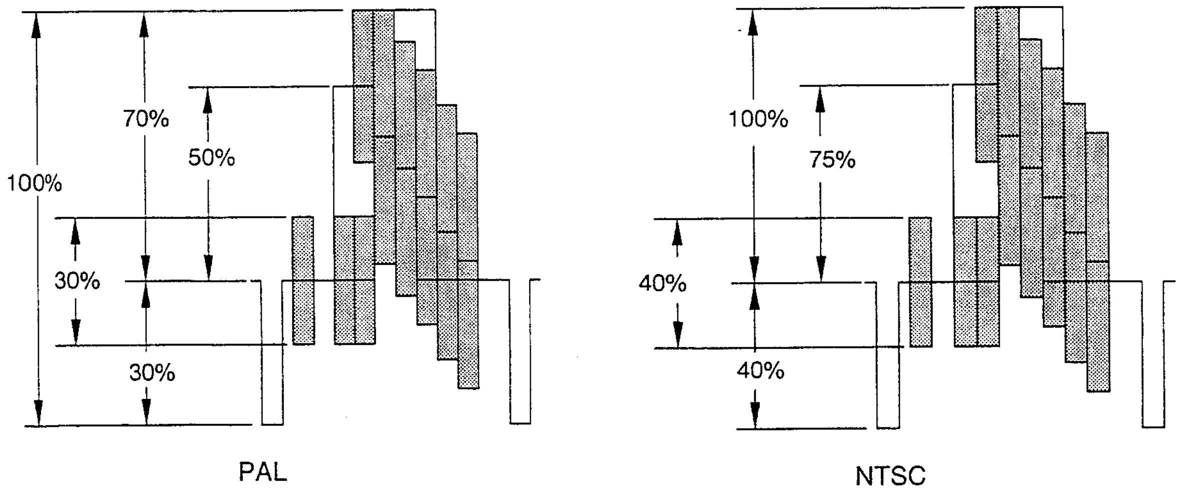
Measuring equipment and Jigs

- Oscilloscope (Unless otherwise specified in particular, use it at 10:1 probes.)
- Signal generator
- Frequency counter
- Audio tetster
- Direct current voltmeter
- Electrical tools

Test Signal

1).Monoscope signal
When you have no monoscope signal source for adjustment, connect the unit to a VCR and play an alignment tape(Monoscope).

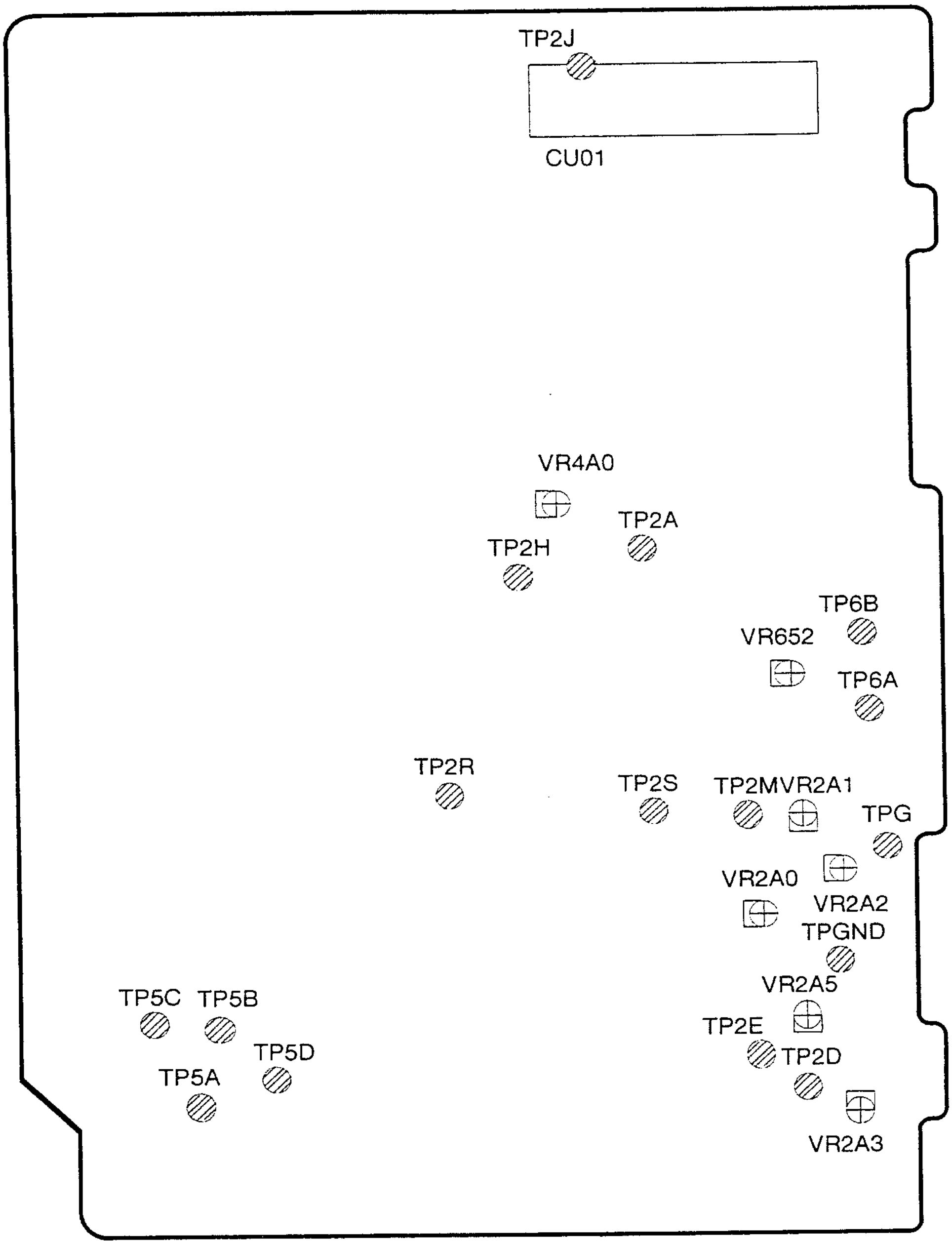
2).Colour bar signal
In this manual, unless otherwise specified in particular, use colour bar signal in specifications below.



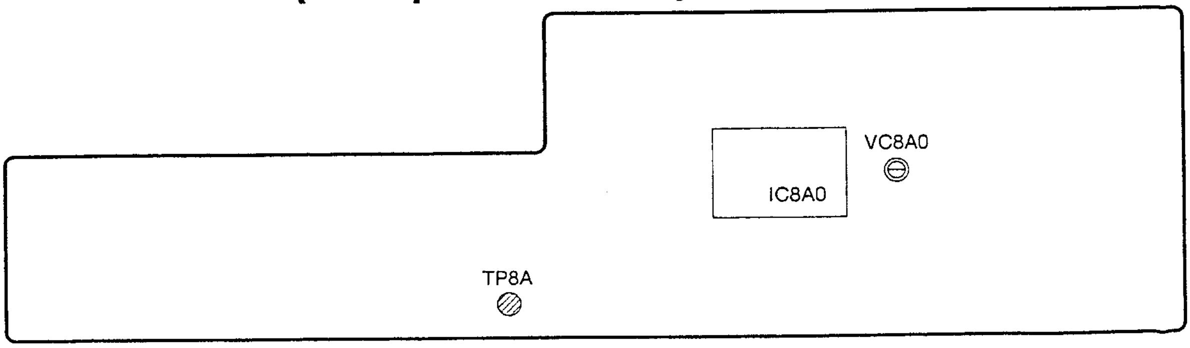
Split-Field colour bar(with 100% window)

LOCATIONS

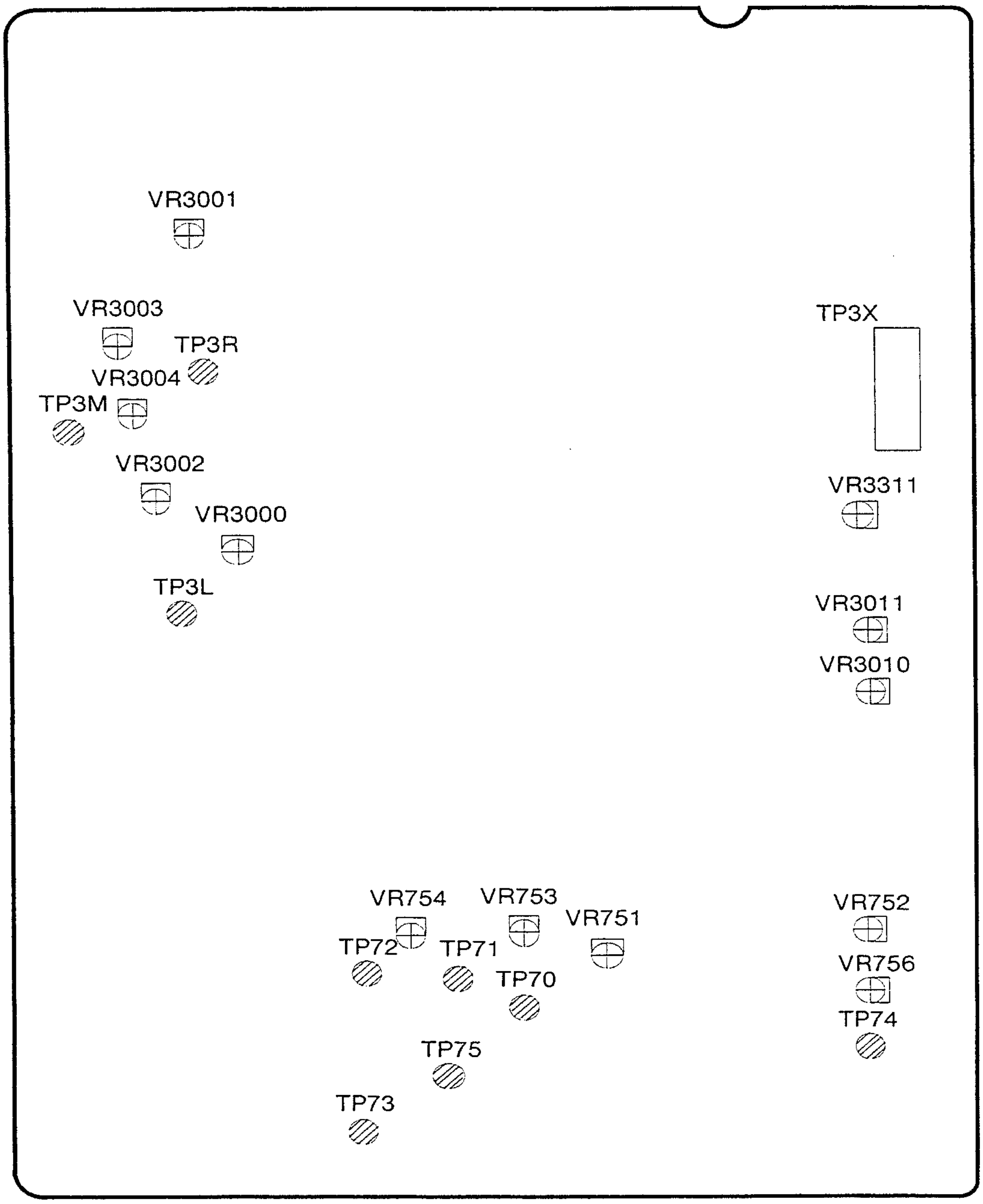
PCB-MAIN(Solder side)


TP2J
CU01
VR4A0
TP2A
TP2H
TP6B
VR652
TP6A
TP2R
TP2S
TP2M
VR2A1
TPG
VR2A0
VR2A2
TPGND
VR2A5
TP5C
TP5B
TP5D
TP5A
TP2E
TP2D
VR2A3

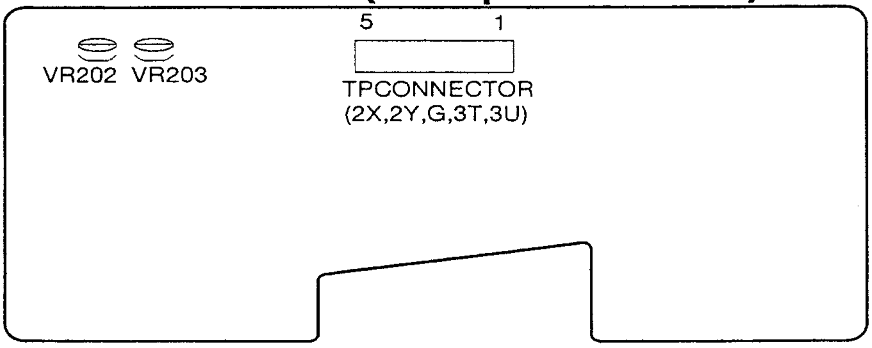
PCB-TIMER(Component side)


VC8A0
IC8A0
TP8A

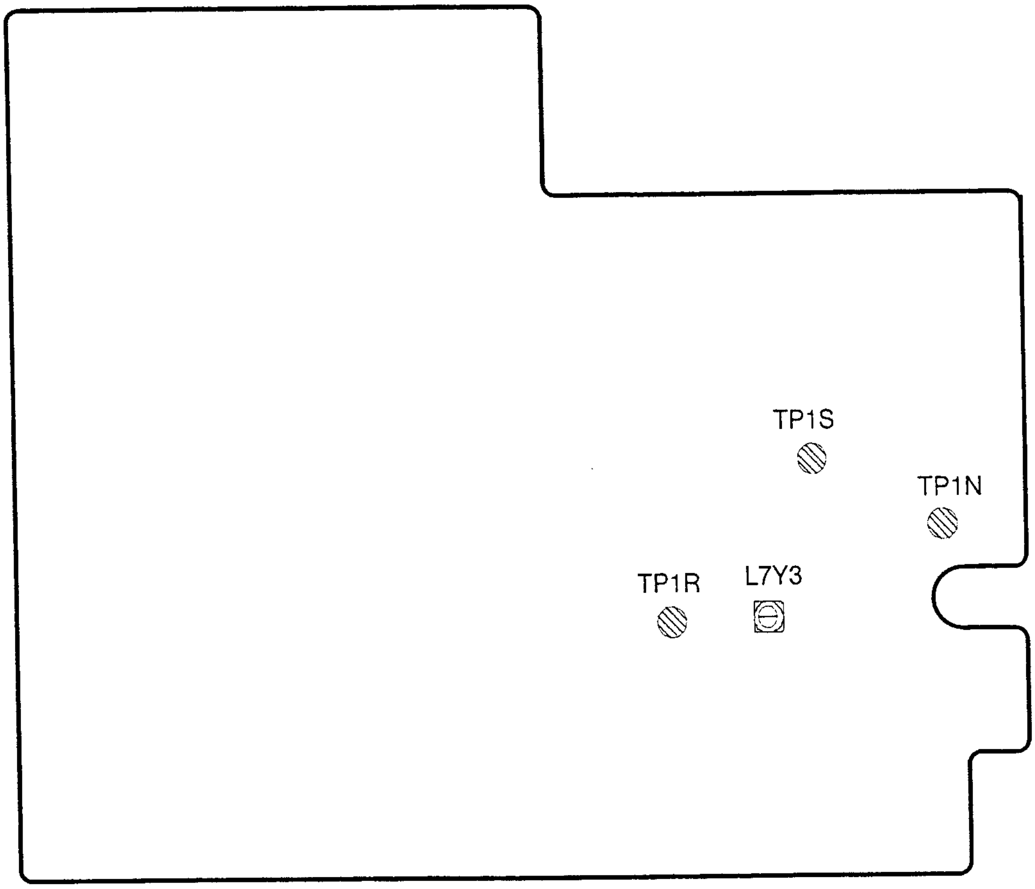
PCB-HIFI(Component side)


VR3001
VR3003
TP3R
VR3004
TP3M
VR3002
VR3000
TP3L
TP3X
VR3311
VR3011
VR3010
VR754
VR753
VR751
TP72
TP71
TP70
TP75
TP73
VR752
VR756
TP74

PCB-HEAD AMP(Component side)


5
1
VR202
VR203
TPCONNECTOR
(2X,2Y,G,3T,3U)

PCB-NICAM(Component side)

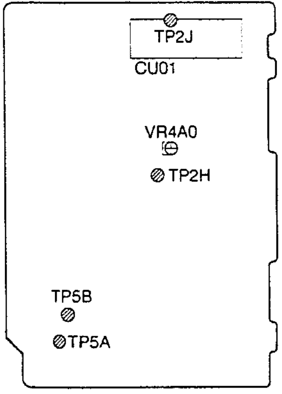

TP1S
TP1N
TP1R
L7Y3

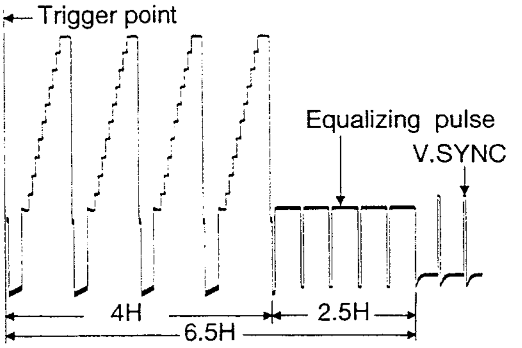
[Servo circuit] 1.Playback Switching Point	**Adjustment purpose** Video switch over timing during playback. **Symptom when incorrectly adjusted** Switching noise or jitter on the playback picture.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2J	Using tape	Alignment tape (PS2, grey scale)
EXT trigger	TP2H	VCR condition	Playback
Measurement range	DIV 20mV TIM 50μs	Using Jig	—

1.Play back an alignment tape(PS2, grey scale).
2.Short-circuit TP5A and TP5B. Confirm that the "DTR" displayed in Fluorescent Display flashes fast.
3.Set the oscilloscope's slope to (–).
4.Observe a waveform at TP2J.
5.Adjust VR4A0 so that the trigger point is located at 6.5±1.0H before the vertical synchronizing signal.

PCB-MAIN (Solder side)



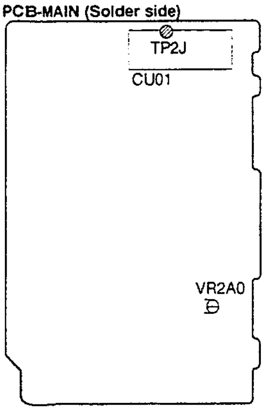


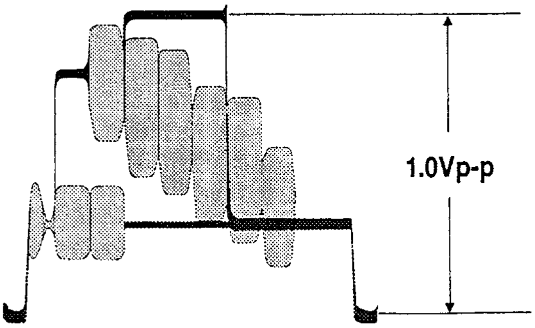
[Y/C signal circuit] 2.EE Output Level	**Adjustment purpose** Output level of signal at STOP mode. **Symptom when incorrectly adjusted** Too bright or too dark image:colour signal is produced incorrectly.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal (PAL colour bar)
Test point	TP2J	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 20mV TIM 10μs	Using Jig	—

1.Supply an RF signal(PAL colour bar).
2.Be certain that nothing is connected to the VIDEO OUT terminal.
3.Observe a waveform at TP2J.
4.Adjust VR2A0 so that the amplitude of the waveform is 1.0Vp-p.

PCB-MAIN (Solder side)



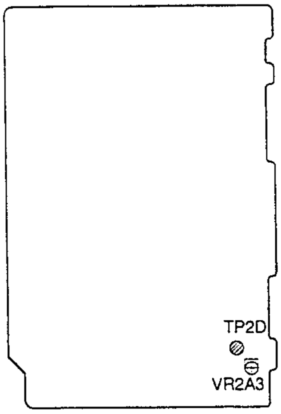


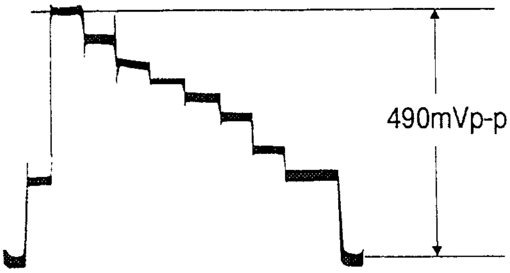
[Y/C signal circuit] 3.Clamp	**Adjustment purpose** Set the level of video signal. **Symptom when incorrectly adjusted** Blurred image, white streaking black streaking.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal (PAL colour bar)
Test point	TP2D	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 10mV TIM 10μs	Using Jig	—

1.Supply an RF signal(PAL colour bar).
2.Observe a waveform at TP2D.
3.Adjust VR2A3 so that the amplitude of the waveform is 490mVp-p.

PCB-MAIN (Solder side)

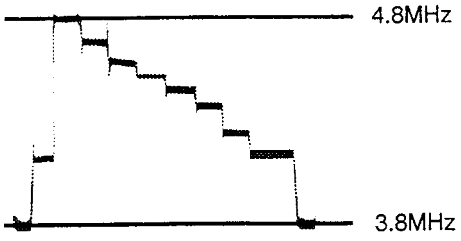




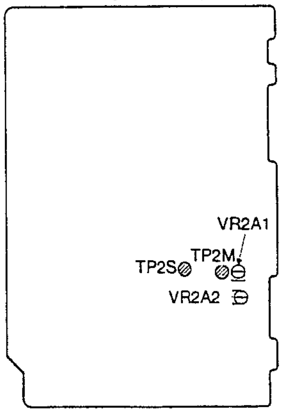
[Y/C signal circuit] 4.Carrier set, Deviation	**Adjustment purpose** FM carrier frequency and frequency deviation. **Symptom when incorrectly adjusted** Too bright or too dark image:colour signal is to reproduced incorrectly. Horizontal noise or out of sync.

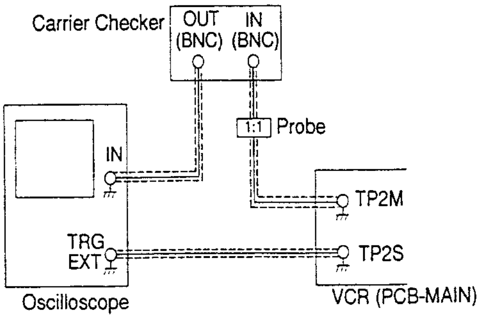
Measuring instrument and condition		VCR set up condition	
Oscilloscope(Probe 1:1)		Input signal	RF signal (PAL colour bar)
Test point	TP2M	Using tape	—
EXT trigger	TP2S	VCR condition	STOP
Measurement range	DIV 0.2V TIM 10μs	Using Jig	Carrier checker

1.Supply an RF signal(PAL colour bar).
2.Observe a waveform at TP2M using the carrier checker.
3.Adjust VR2A2 and VR2A1 so that the response waveform 3.8MHz line and 4.8MHz just touch each of the white lines on the oscilloscope.



PCB-MAIN (Solder side)





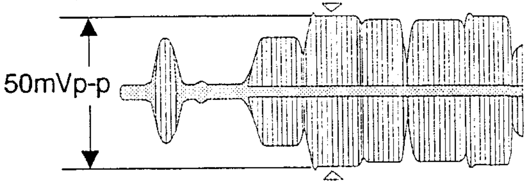
[Y/C signal circuit]
5.Y/C Recording Level

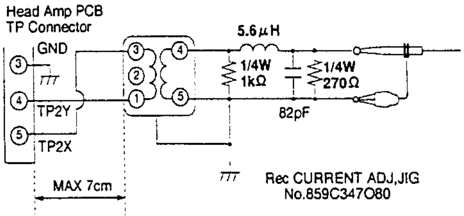
Adjustment purpose Level of video signal just before recording on tape.

Symptom when incorrectly adjusted Low luminance signal S/N ratio,beats,colour bounding of chrominance signal or flicker.

Measuring instrument and condition		VCR set up condition	
Oscilloscope(Probe 1:1)		Input signal	RF signal (PAL colour bar)
Test point	TP2X,TP2Y	Using tape	A tape
EXT trigger	TP2S	VCR condition	LP REC
Measurement range	DIV 10mV TIM 10μs	Using Jig	REC CURRENT ADJ.JIG

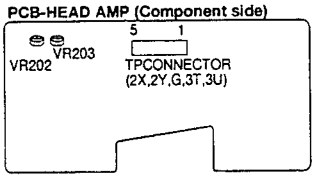
1.Supply an RF signal(PAL colour bar).
2.Set a VCR to LP REC mode.
3.Observe a waveform at TP2X,TP2Y using a REC CURRENT ADJ.JIG.
4.Turn VR203 fully counter clockwise as seen from top side.
5.Adjust VR202 so that the amplitude of cyan is 50mVp-p.

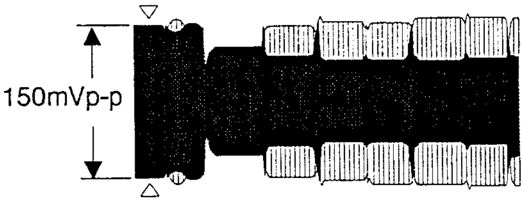




6.Set the oscilloscope's probe to 10:1.
7.Set oscilloscope's volt range to 5mV/div.
8.Adjust VR203 so that the amplitude of horizontal sync is 150mVp-p.

PCB-HEAD AMP (Component side)





[Y/C signal circuit]
6.Playback Video Output Level

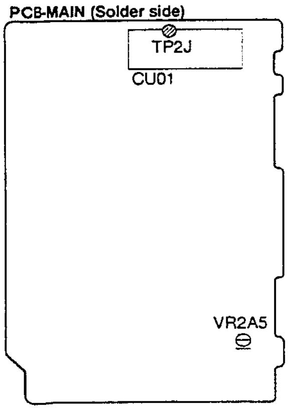
Adjustment purpose Video output level during playback.

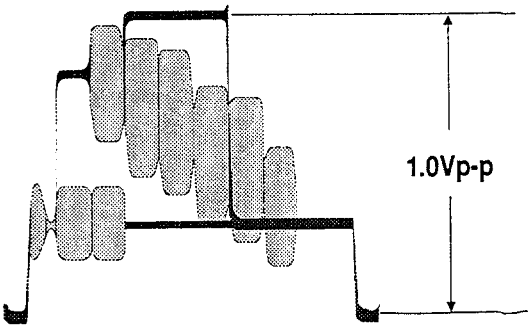
Symptom when incorrectly adjusted Colour signal is not correctly reproduced.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2J	Using tape	Alignment tape (PS2, colour bar)
EXT trigger	—	VCR condition	Playback
Measurement range	DIV 20mV TIM 10μs	Using Jig	—

*Perform the EE output level adjustment (Item 2) before this adjustment.
1.Set the INTELLIGENT PICTURE switch to "I.P OFF" position on the MENU screen.
2.Be certain that nothing is connected to be the VIDEO OUT terminal.
3.Play back an alignment tape(PS2, colour bar).
4.Observe a waveform at TP2J.
5.Adjust VR2A5 so that the amplitude of the waveform is 1.0Vp-p.

PCB-MAIN (Solder side)



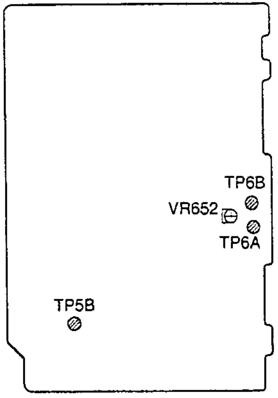


[Y/C signal circuit] 7.N-PAL VCO (HS-M58V(IR)only)	**Adjustment purpose**	Frequency setting of gate pulse for sampling the burst signal in order to convert NTSC signal to a quasi-PAL signal.
	Symptom when incorrectly adjusted	No colour signal during NTSC tape playback.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	—
Test point	TP6B	Using tape	Alignment tape (NS-1, colour bar)
EXT trigger	—	VCR condition	Playback
Measurement range	PERIOD mode	Using Jig	—

1.Play back an alignment tape(NS-1, colour bar).
2.Short-circuit TP6A and TP5B(SW5V).
3.Observe the frequency at TP6B.
4.Adjust VR652 so that the frequency is 15.73kHz ±50Hz.
5.Open TP6A and TP5B.

PCB-MAIN (Solder side)



[Audio circuit] 8.Audio Bias Level	**Adjustment purpose**	Audio bias level during recording.
	Symptom when incorrectly adjusted	Poor audio response in high frequency area or distortion.

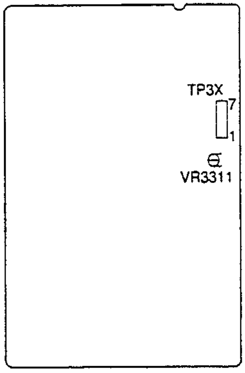
Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	—
Test point	TP3X pin ① ,pin ②	Using tape	A tape
EXT trigger	—	VCR condition	SP REC
Measurement range	—	Using Jig	High pass filter

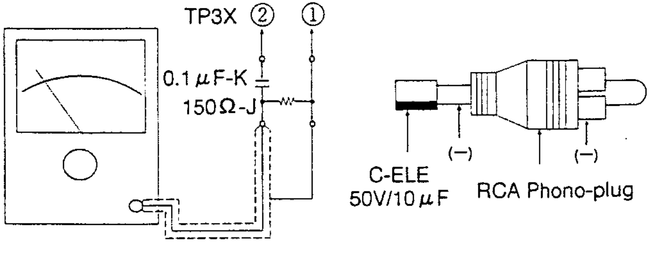
1.Supply no signal.
2.Set a channel position to "EXT(L3)".
3.Insert shorted RCA type phono-plug into the L-CH of AUDIO IN terminal(L3).
4.Set a MIX switch to "OFF" position.
5.Set a VCR to SP REC mode.
6.Observe the audio level at TP3X pin ① and pin ② with audio tester using high pass filter.
7.Confirm that a monitor TV etc. does not affect the indication of an audio tester and then adjust VR3311 so that the level of 2.6mVr.m.s.

Note 1:
Be careful that the audio tester housing does not touch the VCR chassis.

Note 2:
Do not set the VCR to Play mode with the audio tester connected.
(The audio amplifier will be over loaded.)

PCB-HIFI (Component side)





[Hi-Fi Audio circuit] 9.VCO	**Adjustment purpose** Set up of FM carrier frequency for Hi-Fi audio. **Symptom when incorrectly adjusted** Buzz only.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	—
Test point	TP3L TP3R	Using tape	A tape
EXT trigger	—	VCR condition	SP REC
Measurement range	—	Using Jig	—

1.Set a CHANNEL position to "EXT(L3)" .

2.Set a MONITOR button on the remote hand unit to "STEREO" mode.

3.Set the MIX switch to "OFF" position.

4.Insert shorted RCA type phono-plug into the L-CH of AUDIO IN terminal(L3).

5.Set a VCR to SP REC mode.

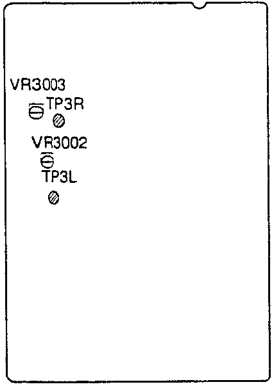
7.Observe the frequency at TP3L.

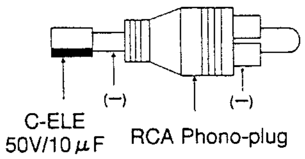
8.Adjust VR3002 so that the frequency is 1.400MHz±3kHz.

9.Observe the frequency at TP3R.

10.Adjust VR3003 so that the frequency is 1.800MHz±3kHz.

PCB-HIFI (Component side)





[Hi-Fi Audio circuit] 10.FM Frequency Deviation	**Adjustment purpose** FM frequency deviation of Hi-Fi sound. **Symptom when incorrectly adjusted** Too high or too low recording and playback levels of Hi-Fi sound.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	1kHz, -8dBm
Test point	AUDIO OUT terminal (L-CH,R-CH)	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	—	Using Jig	—

1.Set a MIX switch to "OFF" position.

2.Set a MONITOR button on the remote hand unit to "STEREO" mode.

3.Set a CHANNEL position to "EXT(L3)".

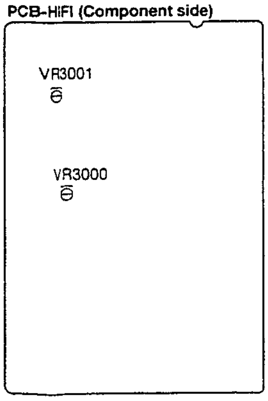
4.Supply a sinewave (1kHz, -8dBm) to the L-CH of AUDIO IN terminal(L3).

5.Take the audio levels at AUDIO OUT terminal (L-CH,R-CH).

6.Play back an alignment tape(PM1KH3).

7.Adjust VR3000 for the L-CH and VR3001 for the R-CH so that the output levels of AUDIO OUT terminals are the same level taken in Step 5.

PCB-HIFI (Component side)



【 Timer circuit 】
11.Clock OSC Frequency

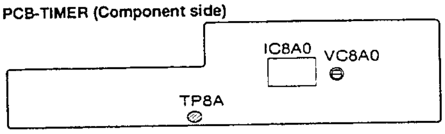
Adjustment purpose Accuracy of clock.

Symptom when incorrectly adjusted Poor clock accuracy.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	—
Test point	TP8A	Using tape	—
EXT trigger	—	VCR condition	Stand by
Measurement range	PERIOD mode	Using Jig	—

1.Set a VCR to Stand by mode.
2.Observe the period at TP8A.
3.Adjust VC8A0 so that the period is 3.173828 ±0.000013ms.

PCB-TIMER (Component side)



MECHANICAL ADJUSTMENT AND REPLACEMENT

1. Cleaning of Deck

The following parts require cleaning whenever serviced to maintain satisfactory performance.

1-1 Video Head

A. Clean the video heads in the following method if dust and other foreign objects on the video heads disturb the normal playback of images:
Dampen video head cleaning cloth with alcohol. Hold the cloth against the drum and turn the drum slowly counterclockwise to clean.
Note:
Do not directly touch the head attached to the upper drum. The head is very hard but brittle to impact, especially in the vertical direction.
Do not apply force in the vertical direction.

B. Allow residual alcohol to dry thoroughly before running tape. Otherwise, the liquid may stick to and damage the tape.

1-2 Tape Transport(Refer to Fig. 1-1.)

Clean the following parts of the tape transport.

1. Tension regulation arm S
2. Tension arm
3. Supply guide pole
4. FE head
5. Impedance roller
6. Supply guide roller
7. Supply slant pole
8. Upper and lower drum
9. Takeup slant pole
10. Takeup guide roller
11. A/C head
12. Takeup guide pole
13. Pinch roller
14. Capstan shaft
15. Takeup guide arm
16. Tension regulation arm T

A. Clean the tape transport with gauze dampened with alcohol, except the supply guide roller, takeup guide roller and pinch roller. If Guide rollers and pinch roller are stained with dust, clean them with dry gauze or exchange them for new parts.

B. Allow residual alcohol to dry thoroughly before running a tape. Otherwise the liquid may stick to and damage the tape.

1-3 Reel Disk Drive System

Clean the reel disk braking surfaces and the reel belt.

A. Clean the reel disk braking surfaces with gauze dampened alcohol.
- After the alcohol dries up completely, perform "Adjustment to Back Tension and Tension Position" (Item 3-1).

B. Reel belt is stained with dust, clean it with dry gauze or exchange it for new part.

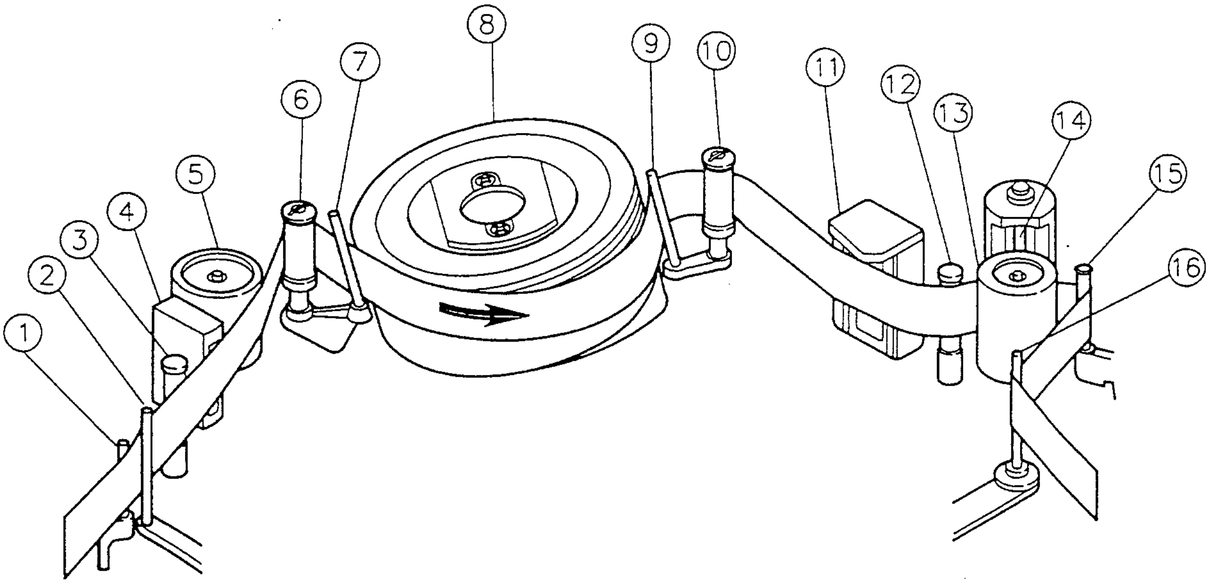


Fig. 1-1

2. Replacement of Major Parts

2-1 Cassette Housing

2-1-1 Removal(Refer to Fig. 2-1-1~2-1-2.)

A. Set the VCR to the eject mode.

B. Remove the top panel, bottom panel, and front panel.

C. Unfasten the snap of the cable holder and remove the cable holder from the cassette housing as shown in Fig.2-1-1.

D. Unscrew four cassette housing fastening screws (ⓐ ~ ⓓ). Raise the cassette housing slowly in the direction shown by the arrow.(Refer to Fig. 2-1-2.)

2-1-2 Installation(Refer to Fig.2-1-1~2-1-3.)

A. Slowly lower the cassette housing onto the main plate of the deck so that the safety lever enters between the insert guide and the shaft as shown in Fig. 2-1-1.
Align the two positioning holes(ⓔ , ⓕ) and the two U holes (ⓖ , ⓗ) located on the cassette housing with the matching holes in the deck.

B. In step A above, if the front loading gear of the cassette housing does NOT engage the boss on the main plate, carefully push the gear toward the front of the VCR using a small-diameter screwdriver, as illustrated in Fig. 2-1-3. If the gear still will not engage, rotate the Front Loading Gear a few degrees from below the deck until the gear engages the boss correctly.

C. Fasten the housing to the deck with the four screws(ⓐ ~ ⓓ).(Refer to Fig. 2-1-2.)

2-2 Lock arm and Drive gear

2-2-1 Removal(Refer to Fig. 2-1-3~2-2.)

A. Unfasten four snaps(ⓐ ~ ⓓ)as shown in Fig. 2-1-3, and remove the side plate TU.

B. Turn the FL SW lever clockwise to separate the FL SW lever from the drive gear, and pull the lock arm and drive gear to remove them from the shaft as shown in Fig. 2-2.

2-2-2 Installation(Refer to Fig. 2-1-3~2-2.)

A. Install the drive gear on the shaft as shown in Fig. 2-2.

B. Line the matching mark on the drive gear and beginning of gear section on the lock arm as shown in Fig. 2-2, and install the lock arm.

C. Install the side plate TU to the cassette housing, and secure it with four snaps(ⓐ ~ ⓓ)as shown in Fig. 2-1-3.

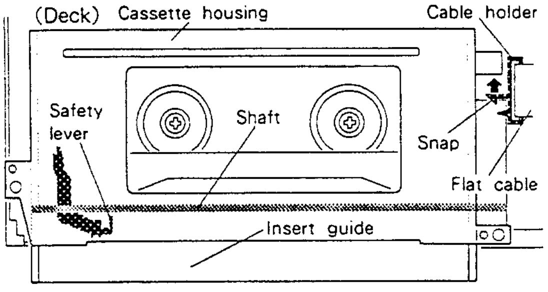

(Deck)
Cassette housing
Cable holder
Safety lever
Shaft
Snap
Flat cable
Insert guide

Fig. 2-1-1

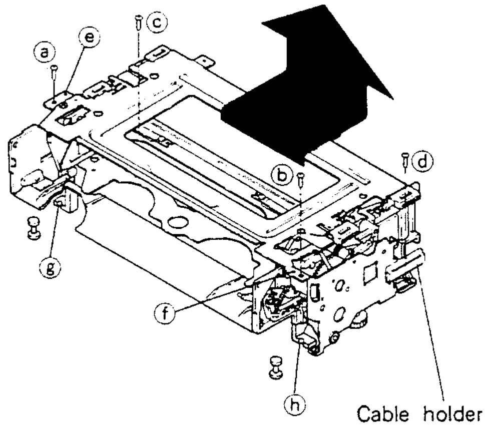

ⓐ
ⓔ
ⓒ
ⓓ
ⓑ
ⓖ
ⓕ
ⓗ
Cable holder
F0D002

Fig. 2-1-2

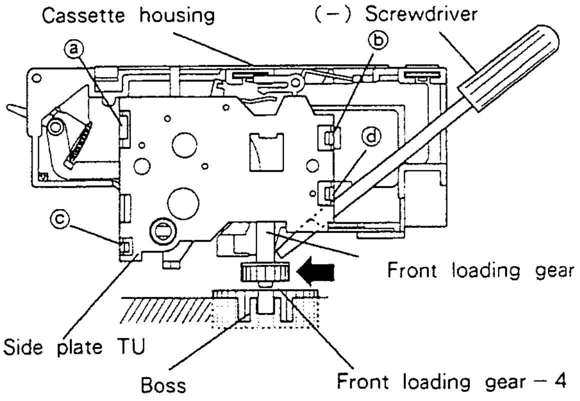

Cassette housing
(−) Screwdriver
ⓐ
ⓑ
ⓓ
ⓒ
Front loading gear
Side plate TU
Boss
Front loading gear − 4
F0D003

Fig. 2-1-3

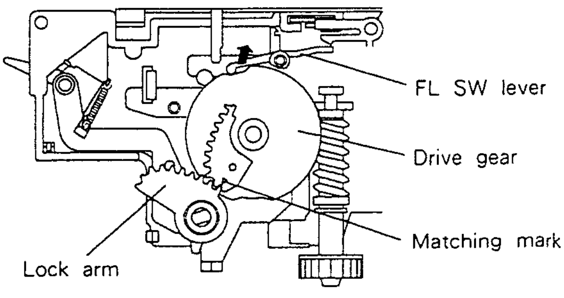

FL SW lever
Drive gear
Matching mark
Lock arm

Fig. 2-2

2-3 Drum Assembly

2-3-1 Removal(Refer to Fig. 2-3-1~2-3-3.)

A. Unscrew the brush fastening screw and remove the brush.(Refer to Fig. 2-3-1.)

B. Unscrew two fastening screws(ⓐ , ⓑ) and remove the PCB-HEAD AMP which is connected to the drum assembly.

Note:

The cable and connector between the drum and head amplifier may be damaged if the cable is pulled strongly, as the cable is short.

Remove the shield cap of the PCB, raise the PCB slightly and disconnect the FPC cable.

(Removal method for the FPC cable connector and stopper is shown in Fig. 2-3-3.)

Disconnect the ground wire and remove the PCB-HEAD AMP.

C. Unscrew three drum fastening screws(ⓒ ~ ⓔ)from the reverse side of the deck.(Refer to Fig. 2-3-2.)

D. Remove the drum assembly by raising it with care not to touch other parts around the drum assembly.

E. Disconnect the connectors from the drum assembly. (Refer to Fig. 2-3-3.)

2-3-2 Installation (Refer to Fig. 2-3-1,2-3-2.)

A. Connect the connectors to a new drum assembly.

B. Place the new drum assembly on the main plate of the deck slowly with care not to touch other parts.

C. Fasten the drum assembly with three fastening screws(ⓒ ~ ⓔ)on the reverse side of the deck. (Refer to Fig. 2-3-2.)

D. Connect the PCB-HEAD AMP to the drum assembly and fasten the PCB with two screws(ⓐ , ⓑ).(Refer to Fig. 2-3-1.)

Note:

Conduct the mechanism interchangeability adjustment outlined in Para.3 to give optimum performance when the drum assembly is replaced.

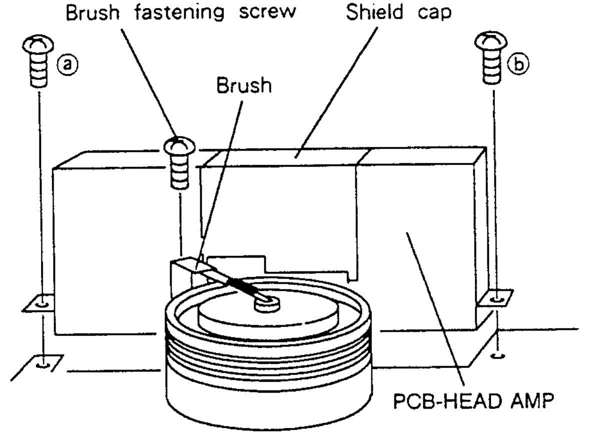


Fig. 2-3-1

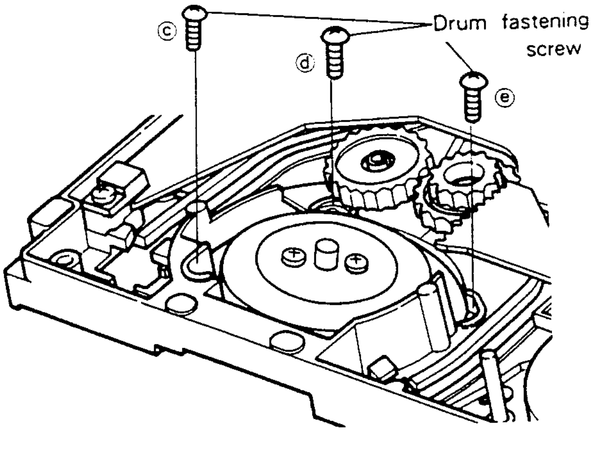


Fig. 2-3-2

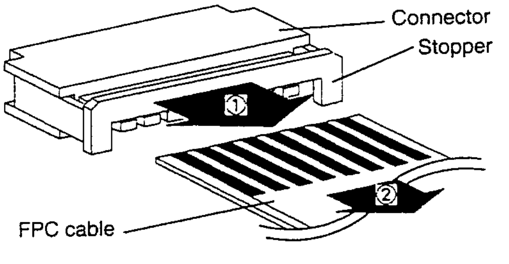


Fig. 2-3-3

2-4 Upper Drum

2-4-1 Removal(Refer to Fig. 2-4-1.)

A. Unscrew the brush fastening screw and remove the brush.

B. Unsolder two inside soldered terminals of each head on the upper drum.

C. Unscrew the upper drum fastening screws.

D. Remove the upper drum slowly and carefully.

Note:

If the upper drum is difficult to remove, heat the upper drum fastening screw holes with a soldering iron, and the drum can be easily removed.

2-4-2 Installation(Refer to Fig. 2-4-1.)

Note:

Handle the upper drum carefully as the video heads are fragile.

A. Position the lower drum so that the hole in the shaft faces the operator. Align the upper drum with the lower drum so that the CH1 mark on the upper drum is on the right side, and couple the drums.

B. Fasten the upper drum with two screws.(Tighten the screws alternately.)

C. Solder the terminals not soldered on the upper drum.

D. Clean the video heads as outlined in Para. 1-1.

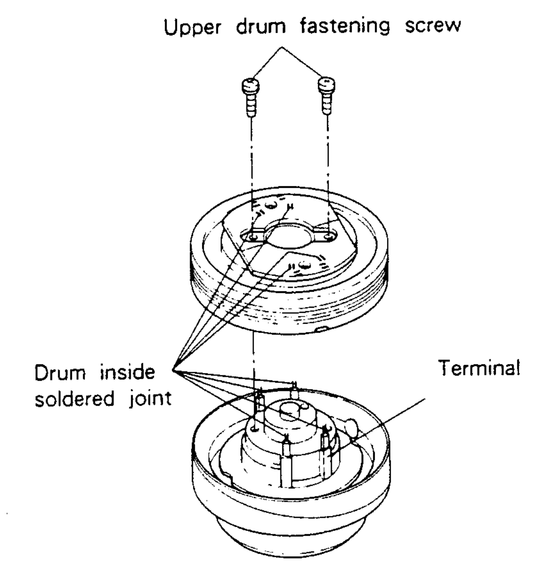

Upper drum fastening screw
Drum inside soldered joint
Terminal
F0D010

Fig. 2-4-1

2-5 Reel Belt(Refer to Fig. 2-5)

A. Remove the reel belt from the capstan motor and the belt pulley.

B. Install a new reel belt.

Note:

Make certain that the new belt is free from grease, before installing.

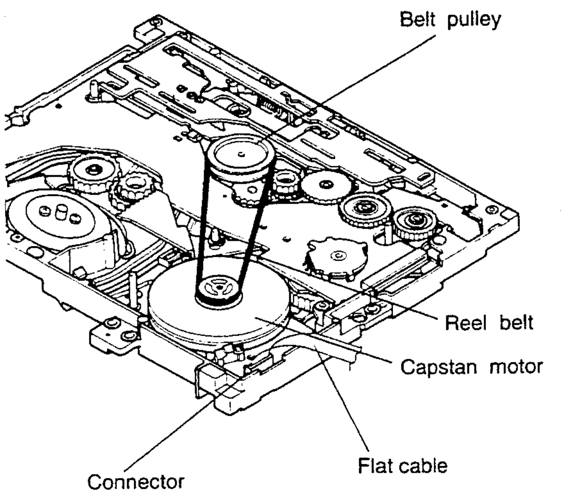

Belt pulley
Reel belt
Capstan motor
Flat cable
Connector
F0D011

Fig. 2-5

2-6 Capstan Motor

2-6-1 Removal(Refer to Fig. 2-5, 2-6)

A. Disconnect the flat cable.

B. Remove the reel belt.(Refer to Fig. 2-5.)

C. Remove three fastening screws shown in Fig. 2-6 and remove the capstan motor.

CAUTION:

Restrain the capstan motor as the three screws are removed, since an un-restrained motor may damage other parts of the deck.

When performing removal or installation of the capstan motor, take care that the outside of the rotor's rim is not greased.(Refer to Fig.2-5.) If greasy components are attached on the outside of the rotor's rim, wipe them off with a dry cloth because they may cause defects during special effects playback.

2-6-2 Installation(Refer to Fig. 2-5, 2-6.)

A. Fasten the motor with three fastening screws.(Refer to Fig. 2-6.)

B. Install the reel belt.

C. Connect the flat cable.

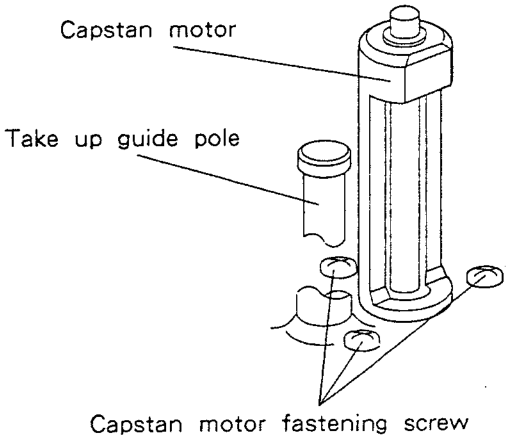

Capstan motor
Take up guide pole
Capstan motor fastening screw
F0D012

Fig. 2-6

2-7 Loading Motor

2-7-1 Removal(Refer to Fig. 2-7-1, 2-7-2.)

A. Set the VCR to the eject mode.
B. Disconnect the wires from the loading motor.
C. Remove two stoppers securing the motor and the motor holder plate.(Refer to Fig. 2-7-2.)
D. Slide the motor and motor holder plate away, and then raise them to remove.
E. Remove the belt-LM from the loading motor and the pulley-L.(TYPE-B only)(Refer to Fig. 2-7-1.)
F. Unscrew two screws and detach the motor holder plate from the motor.
G. Disconnect the coupling from the motor.

2-7-2 Installation(Refer to Fig. 2-7-1~2-7-3.)

A. Fasten the coupling to a new loading motor.(Refer to Fig. 2-7-3.)
B. Fasten the motor holder plate to the motor with two screws.(Refer to Fig. 2-7-1.)
C. Install the belt-LM.(TYPE-B only)
D. Place the motor and motor holder plate in the motor holder to the rest of the deck.
E. Turn the motor shaft so that the coupling on the loading motors matches the worm gear of the motor holder. Slide the loading motor forward and secure it with the stoppers.
F. Solder the leads to the loading motor. (Brown lead wire to the positive terminal and red lead wire to the negative terminal.)

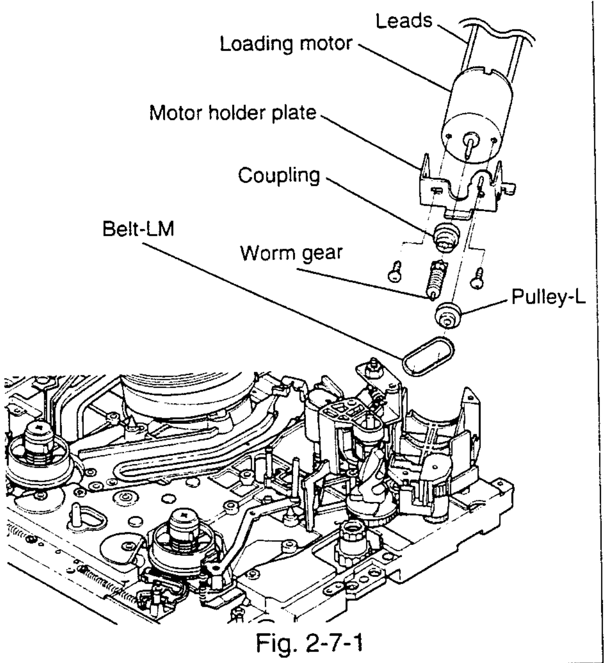

Leads
Loading motor
Motor holder plate
Coupling
Belt-LM
Worm gear
Pulley-L

Fig. 2-7-1

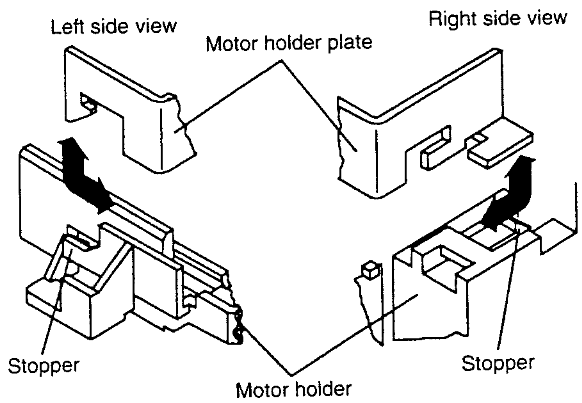

Left side view
Motor holder plate
Right side view
Stopper
Motor holder
Stopper

Fig. 2-7-2

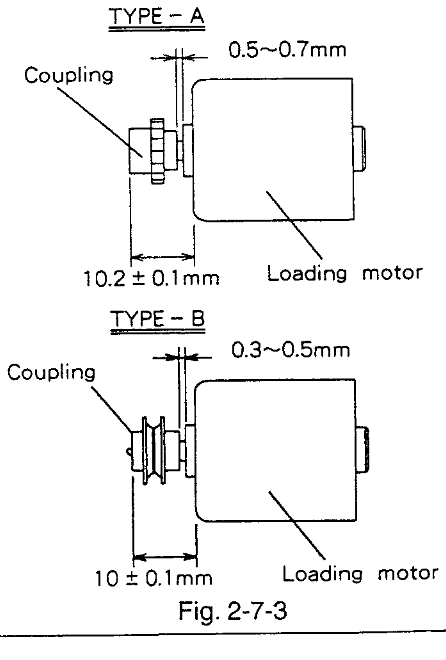

TYPE - A
0.5~0.7mm
Coupling
10.2 ± 0.1mm
Loading motor
TYPE - B
0.3~0.5mm
Coupling
10 ± 0.1mm
Loading motor

Fig. 2-7-3

2-8 Pinch Roller

2-8-1 Removal(Refer to Fig. 2-8-1, 2-8-2.)

A. Set the VCR to the eject mode.
B. Remove the pinch roller arm cap and the grip ring which secures the pinch roller arm assembly.(Refer to Fig. 2-8-1.)
C. Pull the pinch roller arm assembly upwards to remove.
D. Remove the pinch roller cap from the pinch roller arm, and remove the pinch roller. (Refer to Fig. 2-8-2.)

2-8-2 Installation(Refer to Fig. 2-8-1,2-8-2.)

A. Assemble the pinch roller cap and the pinch roller to the pinch roller arm by exercising care with the installation angle of the pinch roller cap and the marking of the Pinch Roller. (Refer to Fig. 2-8-2.)
B. Assemble the pinch roller assembly to the shaft on the main plate.(Refer to Fig. 2-8-1.)
C. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

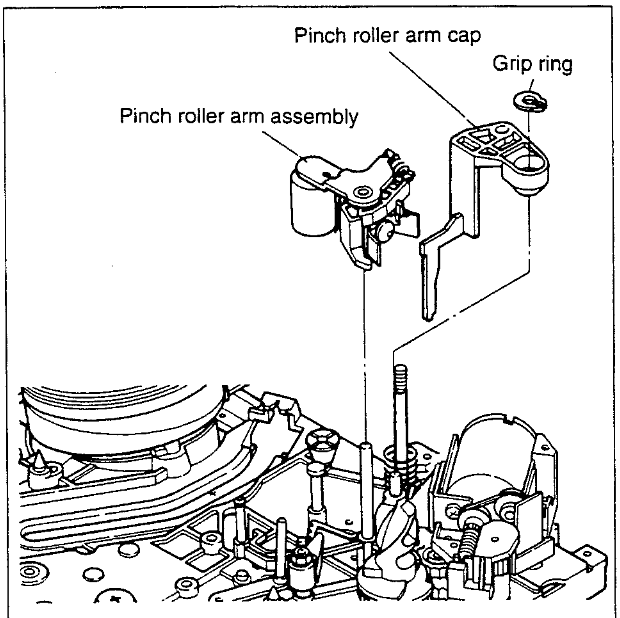

Pinch roller arm cap
Grip ring
Pinch roller arm assembly

Fig. 2-8-1

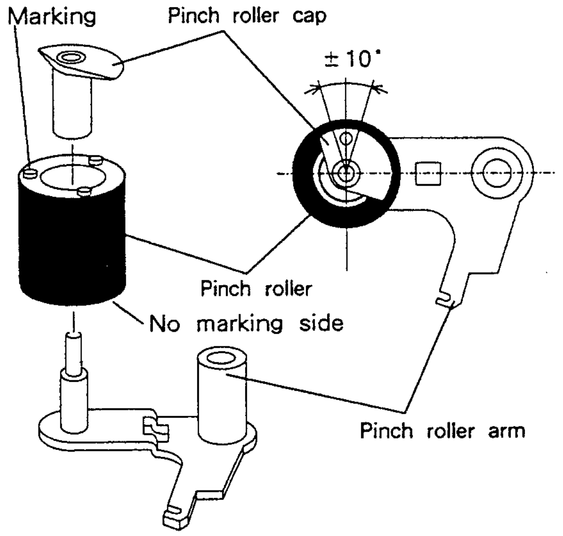

Marking
Pinch roller cap
± 10°
Pinch roller
No marking side
Pinch roller arm

Fig. 2-8-2

F0D017

2-9 Mode Switch

Note:

Replace the mode switch with the VCR in the eject mode.

2-9-1 Removal(Refer to Fig. 2-9-1)

A. Unsolder the five soldered joints of the mode switch from the PCB-DECK.

B. Unfasten two catches fastening the switch to the PCB-DECK assembly.
(Exercise care as the catches may be broken off.)

C. Remove the mode switch slowly while insuring that the soldered joints are all unsoldered.

2-9-2 Installation(Refer to Fig. 2-9-1,2-9-2.)

A. Line the matching marks of the mode switch. (Refer to Fig. 2-9-2.)

B. Finely adjust the mode switch so that continuity at each terminal shall be as given in the illustration.

C. Fasten the switch to the PCB-DECK with care so that the switch does not turn, and secure with two catches.(Refer to Fig. 2-9-1.)

D. Solder the five terminals which connect the mode switch to the PCB-DECK assembly.

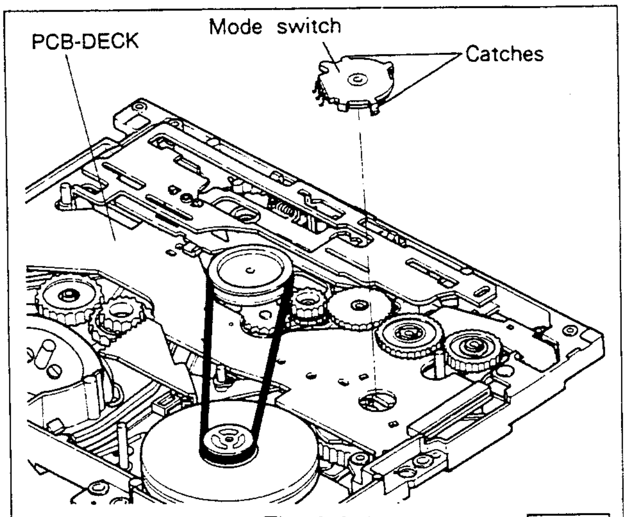

PCB-DECK
Mode switch
Catches
F0D018

Fig. 2-9-1

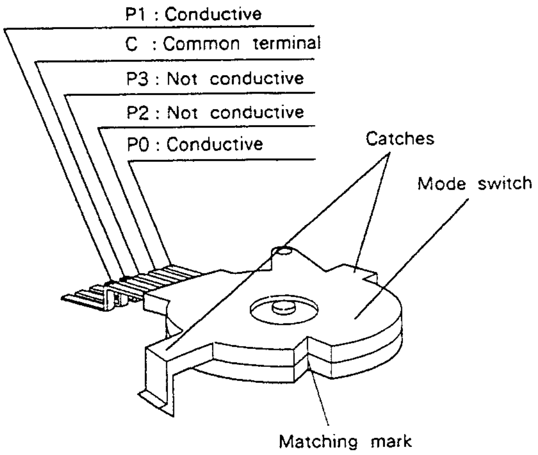

P1 : Conductive
C : Common terminal
P3 : Not conductive
P2 : Not conductive
P0 : Conductive
Catches
Mode switch
Matching mark
F0D019

Fig. 2-9-2

2-10 Supply Reel Disk

2-10-1 Removal (Refer to Fig. 2-10-1~2-10-3.)

A. Remove the cassette housing as in Para. 2-1-1.

B. Unscrew the screw ⓐ which fastens the T band holder. (Refer to Fig. 2-10-1.)

C. Unfasten the catch of the T band holder from the main plate with a small screw driver etc. as shown in Fig. 2-10-2. Raise and remove the T band holder with care not to score or dirty the tension brake belt.

D. Detach the tension spring from the tension arm and the tension lever.(Refer to Fig. 2-10-1.)

E. Remove the grip ring ⓑ which secures the tension arm. Raise the tension arm upward to remove it from the shaft.

F. Detach the tension regulation spring S from the tension regulating arm S and the tension lever.

G. Detach the safety lever spring from the safety lever and the tension lever.

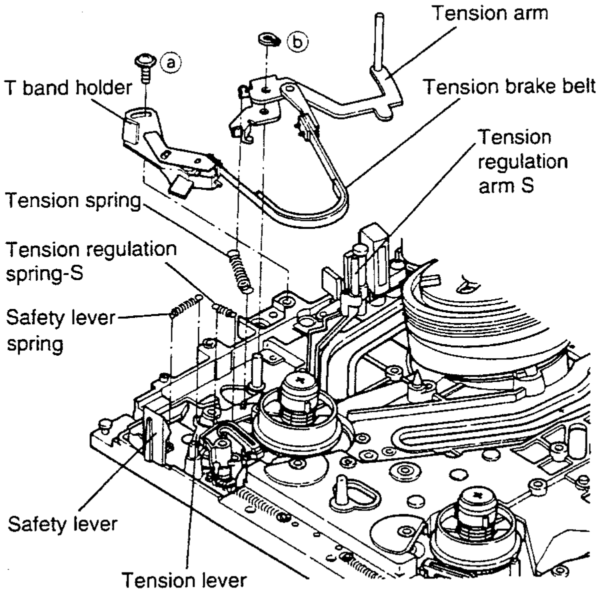
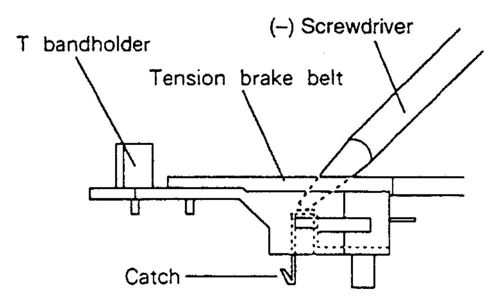

Tension arm
ⓑ
ⓐ
T band holder
Tension brake belt
Tension regulation arm S
Tension spring
Tension regulation spring-S
Safety lever spring
Safety lever
Tension lever

Fig. 2-10-1

H. Raise the tension lever avoiding the main brake S and remove the lever from the shaft.(Refer to Fig. 2-10-3.)

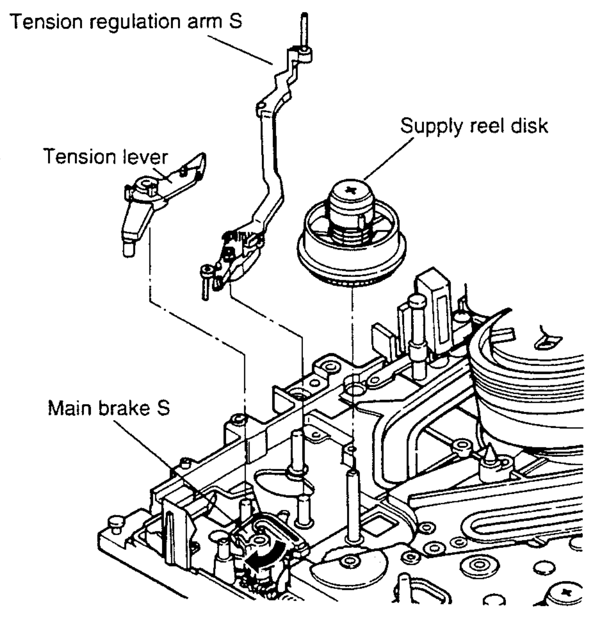
I. Raise the tension regulation arm S and remove it from the shaft.

J. While turning the main brake S slightly clockwise to separate the brake from the supply reel disk, and raise the supply reel disk to remove it from the shaft.(Refer to Fig. 2-10-3.)



T bandholder
(–) Screwdriver
Tension brake belt
Catch
F0D021

Fig. 2-10-2



Tension regulation arm S
Supply reel disk
Tension lever
Main brake S

Fig. 2-10-3

2-10-2 Installation(Refer to Fig. 2-10-4~2-10-7.)

A. Turn the main brake S slightly clockwise to separate it from the supply reel disk shaft, and mount the supply reel disk on the shaft so that the reel gear meshes with the gear of the supply reel disk.

B. Assemble the tension regulation arm S to the shaft.

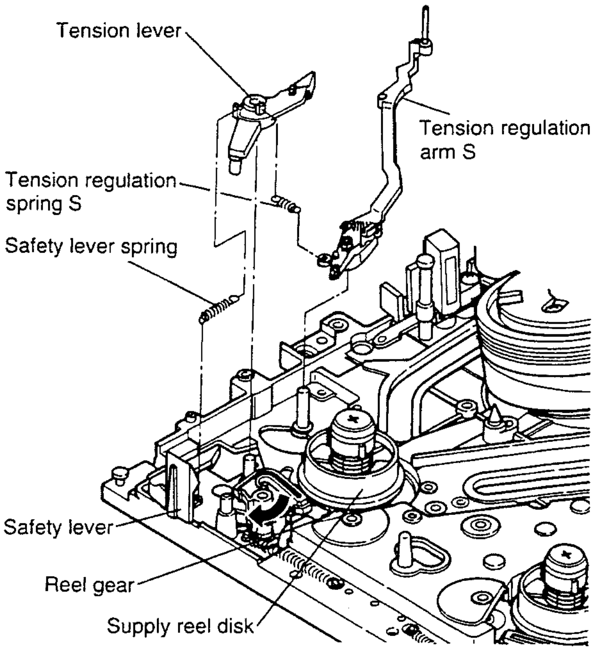
C. Assemble the tension lever to the shaft avoiding the main brake S.

Note:

Install the tension lever so that the pin at the lower part of the lever shall be in front of the slot in the main plate(viewing the front).

D. Fasten the safety lever spring to the safety lever and the tension lever.

E. Fasten the tension regulation spring S to the tension regulation arm S and the tension lever.



Tension lever
Tension regulation arm S
Tension regulation spring S
Safety lever spring
Safety lever
Reel gear
Supply reel disk

Fig. 2-10-4

F. Assemble the tension arm to the shaft and secure the arm with the grip ring ⓑ.(Refer to Fig. 2-10-5.)

G. Fasten the tension spring to the tension arm and the tension lever.(Refer to Fig. 2-10-5.)

H. Assemble the T band holder to the main plate with care not to score or dirty the tension brake belt, and secure the holder with the screw ⓐ lightly.(Refer to Fig. 2-10-5.)

Note:

In the assembly of the T band holder, make certain that the hook of the holder positively engages with the reverse side of the main plate.

If the hook is difficult to engage with the main plate, push the hook lightly with a small screw driver etc.(Refer to Fig. 2-10-2.)

I. Separate the main brake S and the tension regulation arm S from the supply reel disk and make certain that the disk turns freely.(Refer to Fig. 2-10-3.)

J. Place the reel disk height adjusting jig(Part Number 859C342020) in the reference position on the main plate.(Refer to Fig. 2-10-6.)

K. Slowly turn the jig about point A and make sure that the height of the supply reel disk flange agrees with the point B on the supply disk adjusting side of the jig (marked SP).(Refer to Fig. 2-10-7.)

L. If the height of the disk is not satisfactory, hold the disk so that it does not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)

A) Turn the screw clockwise if the measured height is low.

B) Turn the screw counterclockwise if the measured height is high.

M. On completion of adjustment, lock the height adjusting screw by burning it with the tip of a hot iron.

N. Install the cassette housing as in Para. 2-1-2.

O. Adjust back tension and tension pole position as outlined in Para. 3-1.

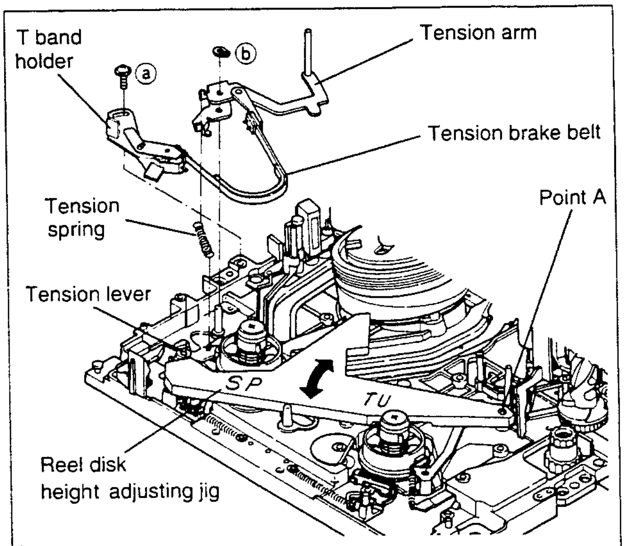

T band holder
ⓐ
ⓑ
Tension arm
Tension brake belt
Point A
Tension spring
Tension lever
SP
TU
Reel disk height adjusting jig

Fig. 2-10-5

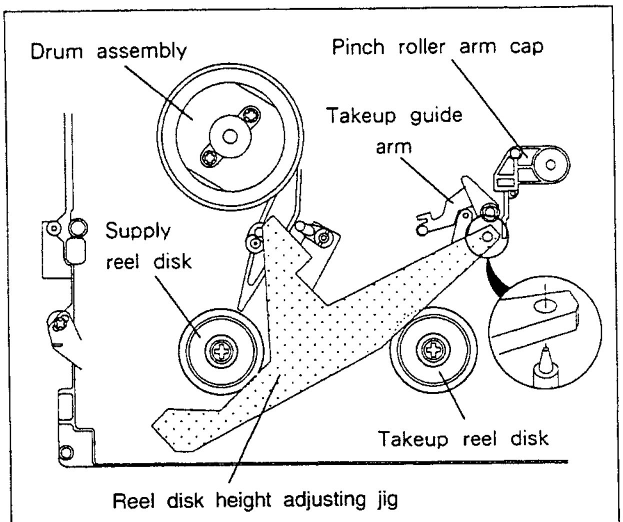

Drum assembly
Pinch roller arm cap
Takeup guide arm
Supply reel disk
Takeup reel disk
Reel disk height adjusting jig

Fig. 2-10-6

F0D025

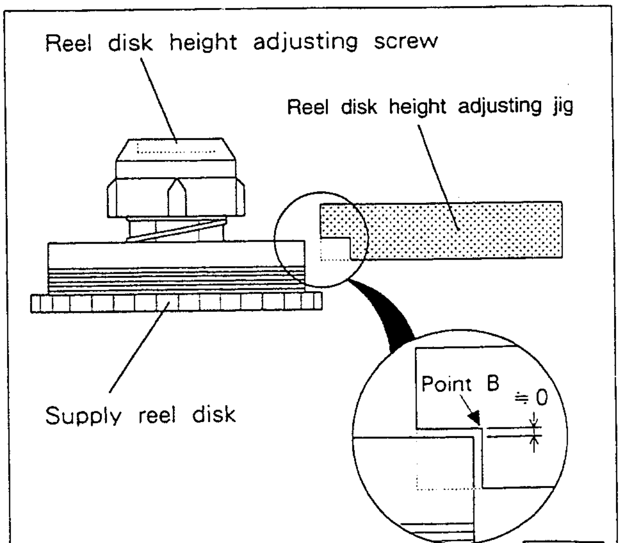

Reel disk height adjusting screw
Reel disk height adjusting jig
Supply reel disk
Point B
≒0

Fig. 2-10-7

F0D026

2-11 Takeup Reel Disk

2-11-1 Removal(Refer to Fig. 2-11-1.)

A. Remove the cassette housing as in Para. 2-1-1.

B. Detach the spring RS and the tension regulation spring T from the tension regulation arm T and the lever RS.

C. Remove the cut washer which fastens the tension regulation arm T.

D. Turn the takeup guide arm slightly clockwise and raise the tension regulation arm T to remove it from the shaft.

E. Turn the main brake slightly counter-clockwise to separate the brake from the takeup reel disk and raise the disk upwards to remove it from the shaft.

2-11-2 Installation(Refer to Fig. 2-11-2, 2-11-3.)

A. Turn the main brake T slightly counter-clockwise to release the takeup reel disk shaft. Slip the takeup reel disk onto the shaft so that the gear of the takeup reel shall mesh with the reel gear.(Refer to Fig. 2-11-2.)

B. Turn the takeup guide arm slightly clockwise and install the tension regulation arm T to the shaft. Secure the arm with a cut washer.

C. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS.

D. Separate the main brake T and the tension regulation arm T from the takeup reel disk and make certain that the takeup reel disk turns freely.

E. Place the reel disk height adjusting jig(Part Number 859C342020) in the reference position on the main plate. (Refer to Fig. 2-10-6.)

F. Turn the jig slowly about the point A towards the takeup reel disk to make certain that the height of the disk flange agrees with the point B on the takeup side of the jig(marked TU). (Refer to Fig. 2-11-3.)

G. If the height of the disk is not satisfactory, hold the disk so that it shall not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)
  A) Turn the screw clockwise if the measured height is low.
  B) Turn the screw counterclockwise if the measured height is high.

H. On completion of height adjustment, lock the adjusting screw by burning it with the tip of a hot iron.

I. Install the cassette housing as in Para. 2-1-2.

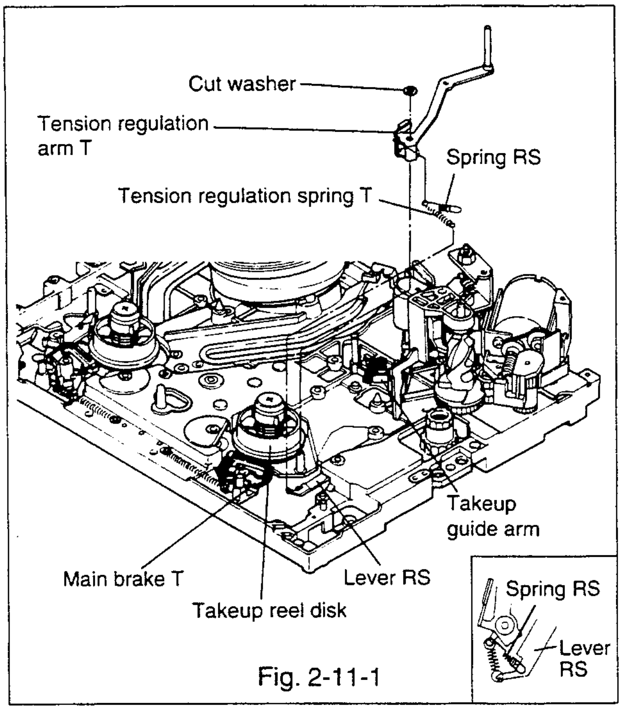

Cut washer
Tension regulation arm T
Spring RS
Tension regulation spring T
Takeup guide arm
Main brake T
Lever RS
Takeup reel disk
Spring RS
Lever RS

Fig. 2-11-1

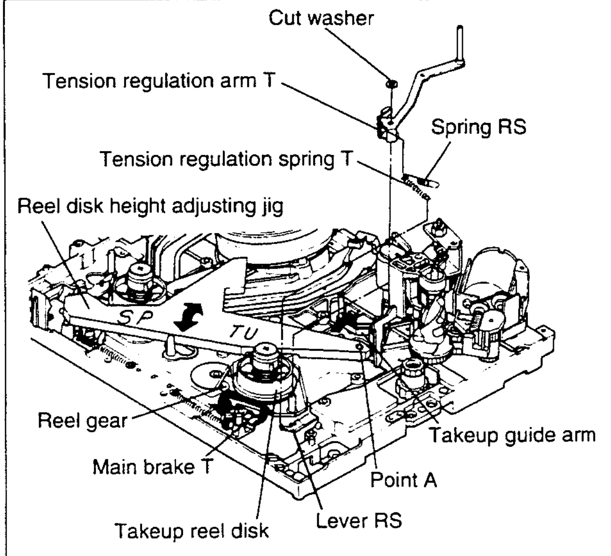

Cut washer
Tension regulation arm T
Spring RS
Tension regulation spring T
Reel disk height adjusting jig
SP
TU
Reel gear
Takeup guide arm
Main brake T
Point A
Takeup reel disk
Lever RS

Fig. 2-11-2

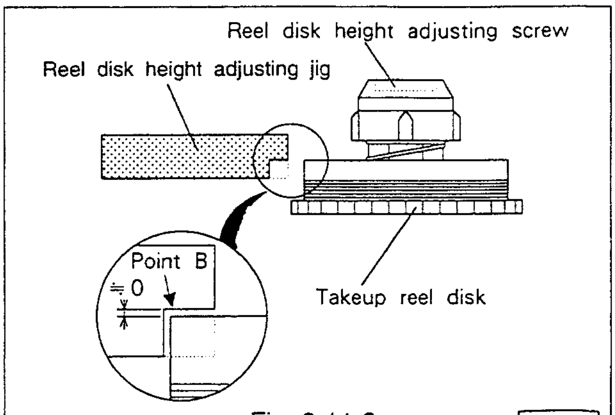

Reel disk height adjusting screw
Reel disk height adjusting jig
Point B
≒0
Takeup reel disk

Fig. 2-11-3

F0D029

2-12 A/C Head

2-12-1 Removal (Refer to Fig. 2-12-1, 2-12-2.)

A. Disconnect the connector from the PCB-A/C HEAD.(Refer to Fig. 2-12-1.)

B. Remove the nut which fastens the A/C head assembly.

C. Raise upwards and remove the A/C head assembly from the shaft by paying attention to the A/C arm spring which turns the A/C head assembly clockwise.

D. Remove three A/C head fastening screws(ⓐ ~ ⓒ) and the A/C spring shown in Fig. 2-12-2, and remove the A/C head from the A/C arm.

E. Unsolder the PCB-A/C HEAD from the A/C head.(Refer to Fig. 2-12-2.)

2-12-2 Installation(Refer to Fig. 2-12-1~2-12-3.)

A. Solder the PCB-A/C HEAD to the A/C head. (Refer to Fig. 2-12-2.)

B. Fasten the A/C head to the A/C arm with three screws(ⓐ ~ ⓒ) and the A/C spring.

Note:
Install the A/C head to the A/C arm so that the base surface of the A/C head shall be parallel to the A/C arm, and their spacing and the A/C head installation screwⓒ height shall be as specified in Fig. 2-12-3.

C. Assemble the A/C head assembly to the shaft while turning the A/C arm spring counter-clockwise about 60° (Refer to Fig. 2-12-1.)

D. Tighten the A/C head assembly fastening nut so that the base surface of the A/C head shall be about 7mm above the main plate surface.(Refer to Fig. 2-12-3.)

E. Plug in the connector to the PCB-A/C HEAD. (Refer to Fig. 2-12-1.)

F. Conduct the A/C head adjustment and the phase adjustment as outlined in Para. 3-3 and 3-4.

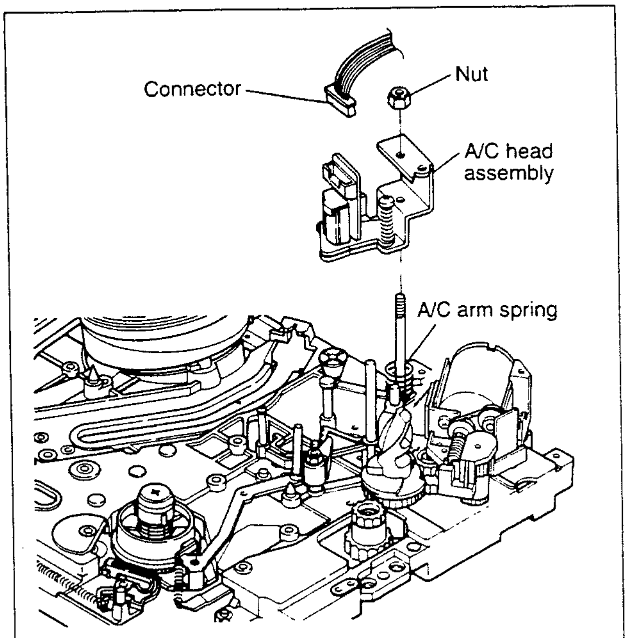

Connector
Nut
A/C head assembly
A/C arm spring

Fig. 2-12-1

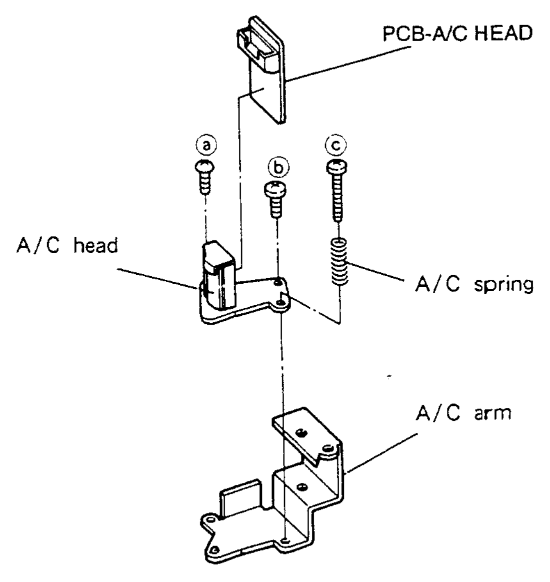

PCB-A/C HEAD
ⓐ
ⓑ
ⓒ
A/C head
A/C spring
A/C arm

Fig. 2-12-2

F0D031

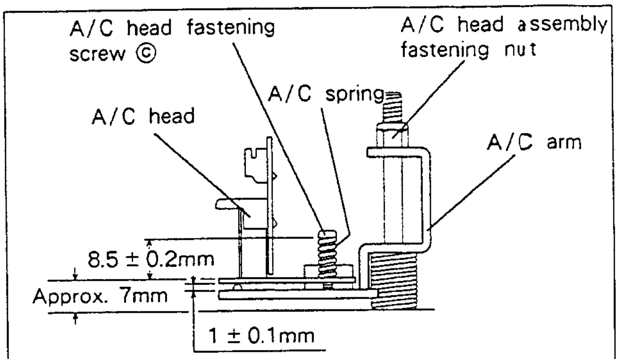

A/C head fastening screw ⓒ
A/C head assembly fastening nut
A/C spring
A/C head
A/C arm
8.5 ± 0.2mm
Approx. 7mm
1 ± 0.1mm

Fig. 2-12-3

F0D032

2-13 Take Up Guide Arm

2-13-1 Removal(Refer to Fig. 2-13-1.)

A. Set the VCR in the eject mode.

B. Remove the pinch roller arm assembly.
(Refer to Para. 2-8 " Pinch Roller ")

C. Raise and separate the pinch roller cam and the TU-G gear arm from the shaft at the same time.

D. Remove the takeup guide arm fastening nut. Raise and separate the takeup guide arm from the shaft with care not to lose the TU-G spring.

2-13-2 Installation(Refer to Fig. 2-13-1~2-13-3.)

A. Install the TU-G spring and the takeup guide arm so that one end of the TU-G spring is fastened to the takeup guide arm and the other end is fastened to the hook of the main plate. Secure them with the fastening nut temporarily.

B. Place the reel disk height adjusting jig(for the F deck) in the reference position on the main plate(Refer to Fig. 2-10-6). Insure the takeup guide arm is level with point B of the height adjusting jig(for the E deck). (Refer to Fig. 2-13-2.)

C. Turn the takeup tension lever fully clockwise as shown in Fig. 2-13-1.

D. Line the matching mark on the TU-G gear arm and beginning of gear section on the takeup guide arm, and line the matching mark on the pinch roller cam and center of gear on the joint gear as shown in Fig. 2-13-3, and install the pinch roller cam and the TU-G gear to the shaft at the same time.

E. Assemble the pinch roller arm assembly to the shaft on the main plate.(Refer to Fig. 2-13-1.)

F. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

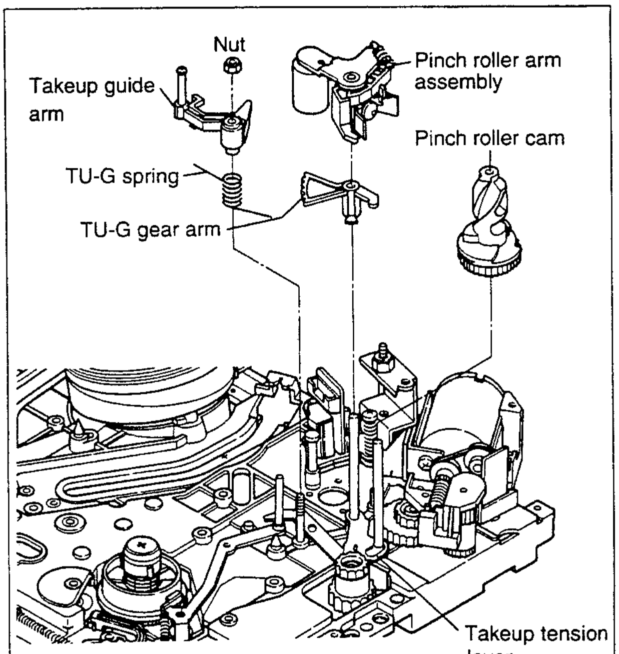

Nut
Takeup guide arm
Pinch roller arm assembly
Pinch roller cam
TU-G spring
TU-G gear arm
Takeup tension lever

Fig. 2-13-1

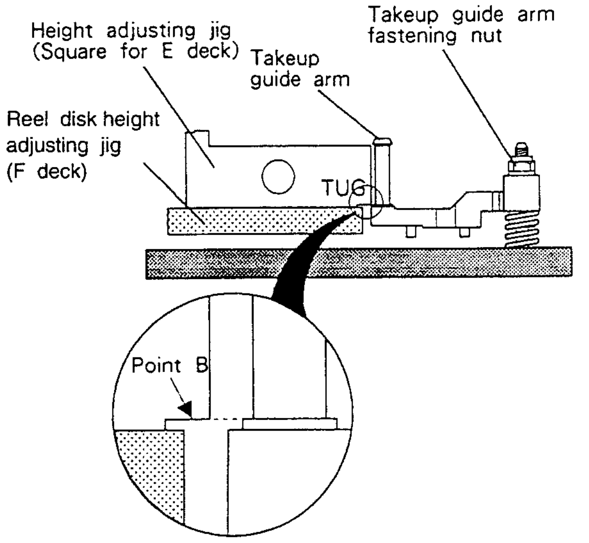

Height adjusting jig (Square for E deck)
Takeup guide arm
Takeup guide arm fastening nut
Reel disk height adjusting jig (F deck)
TUG
Point B

Fig. 2-13-2

FOD034

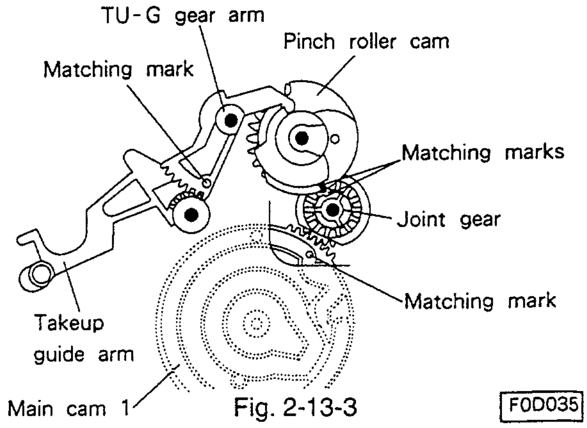

TU-G gear arm
Pinch roller cam
Matching mark
Matching marks
Joint gear
Matching mark
Takeup guide arm
Main cam 1

Fig. 2-13-3

FOD035

2-14 PCB-Deck(Printed Circuit Board)

2-14-1 Removal(Refer to Fig. 2-14-1, 2-14-2.)

A. Detach the capstan brake spring from the capstan brake and the loading gear arm.(Refer to Fig. 2-14-1.)

B. Remove the reel belt from the bottom of the deck.(Refer to Fig. 2-5.)

C. Detach two grip rings ⓕ shown in Fig. 2-14-2 and remove the loading gear arm.

D. Unsolder the terminals of the FE head.(Refer to Fig. 2-14-1.)

E. Unfasten the catches and remove the F/L gear 2, 3 and 4.(Refer to Fig. 2-14-2.)

F. Remove grip ring ⓖ and cut washer ⓗ, and unfasten three catches shown in Fig. 2-14-3 to remove the cam plate B.(Refer to Fig. 2-14-2.)

G. Unscrew five fastening screws(ⓐ ~ ⓔ)and remove the PCB-DECK.(Refer to Fig. 2-14-2.)

2-14-2 Installation(Refer to Fig. 2-14-1~2-14-3.)

A. Make certain that the mode switch is set to the eject position.(Refer to section 2-9.) Fasten the PCB-DECK with five screws and solder the FE head terminals. (Refer to Fig. 2-14-1.)

Note:

The safety lever is normally held leftward with a spring. Pull the safety lever forwards and install the PCB-DECK.

B. Install the cam plate B by paying attention to the pin(ⓐ ~ ⓖ) positions shown in Fig. 2-14-3, and secure the plate with three catches, grip ring ⓖ and cut washer ⓗ.

C. Line the matching mark on the loading arm T and that on the loading gear arm as shown in Fig. 2-14-3, and assemble the loading gear arm so that the pin of the loading gear arm shall enters the groove of the main cam 2. Secure the loading gear arm with two grip rings ⓕ.

D. Assemble the F/L gear 2, 3, and 4 to the shafts.(Refer to Fig. 2-14-2.)

E. Install the reel belt.(Refer to Fig. 2-5.)

F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-14-1.)

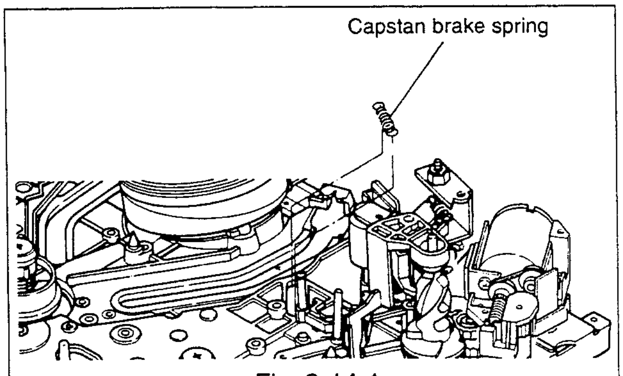

Capstan brake spring

Fig. 2-14-1

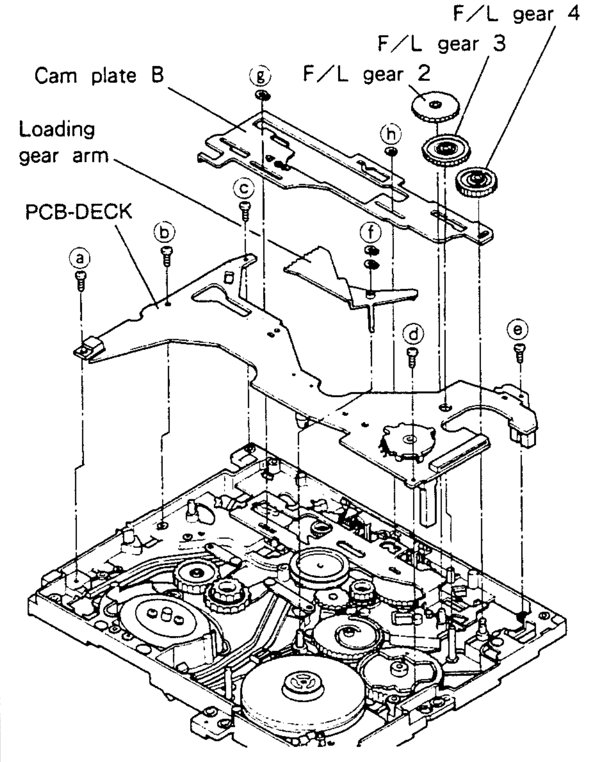

F/L gear 4
F/L gear 3
Cam plate B
ⓖ
F/L gear 2
Loading gear arm
ⓗ
ⓒ
PCB-DECK
ⓑ
ⓕ
ⓐ
ⓓ
ⓔ
FOD037

Fig. 2-14-2

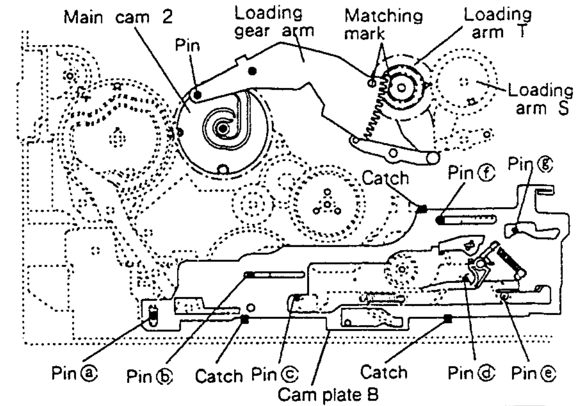

Main cam 2
Loading gear arm
Pin
Matching mark
Loading arm T
Loading arm S
Catch
Pin ⓕ
Pin ⓖ
Pin ⓐ
Pin ⓑ
Catch Pin ⓒ
Catch
Pin ⓓ
Pin ⓔ
Cam plate B
FOD038

Fig. 2-14-3

2-15 Positioning and Installation Sequence of Parts Around Main Cam 1 (Bottom Side of Deck) (Refer to Fig. 2-15-1~2-15-6.)

Note:
Set the VCR to the eject mode to install the main cam 1 and its peripheral parts.

A. Line the positioning hole in lever RS to that of the main plate, and assemble lever RS to the shaft.(Refer to Fig. 2-15-1.)

B. Line the positioning hole in lever C with that of the main plate, and assemble lever C to the shaft.

C. Take care not to move the lever RS and lever C, assemble the main cam 1 to the shaft by lining the matching mark of the joint gear with the positioning hole of main plate. Secure the main cam 1 with the grip ring.(Refer to Fig. 2-15-2.)

Note:
The pins of the lever RS and the lever C enter the groove of the main cam 1 when the levers are lined with the positioning holes.
Make certain that the pins of the levers enter the groove of the main cam 1.

D. Assemble the thrust washer to the pin ⓒ shown in Fig. 2-15-2, and install the cam plate C so that the corresponding positions of the plate match the pins(ⓐ ~ ⓖ).

E. Fasten cam spring C to cam plate C and the cam plate holder.(Refer to Fig. 2-15-2.)

F. Assemble lever B to the shaft so that the pin of the lever shown in Fig. 2-15-3 enters the groove of the main cam 1. Secure the lever with a grip ring.

G. Line the positioning hole of the F/L idler lever with that of the main plate.(Refer to Fig. 2-15-3.)

Note:
The pin of the F/L idler lever enters the groove of the main cam 2 when the positioning hole of the F/L idler lever is aligned.
Make certain that the pin of the lever enters the groove of the main cam 2.

H. Line the matching mark of main cam 2 with that of main cam 1, and also the positioning hole of main cam 2, and assemble the main cam 2 to the shaft. (Refer to Fig. 2-15-3.)

Note:
Make certain that the pin of the F/L idler lever correctly enters in the groove of the main cam 2.

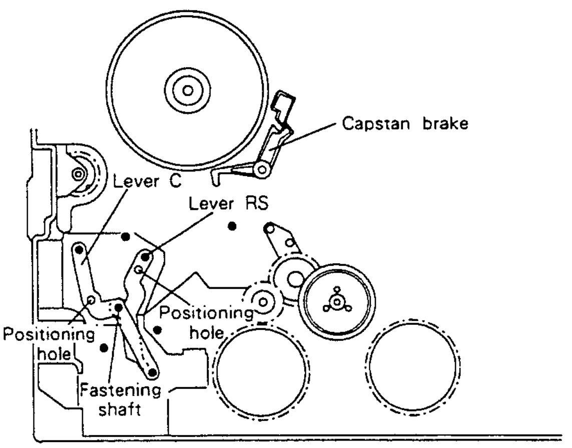

Capstan brake
Lever C
Lever RS
Positioning hole
Positioning hole
Fastening shaft

Fig. 2-15-1

F0D039

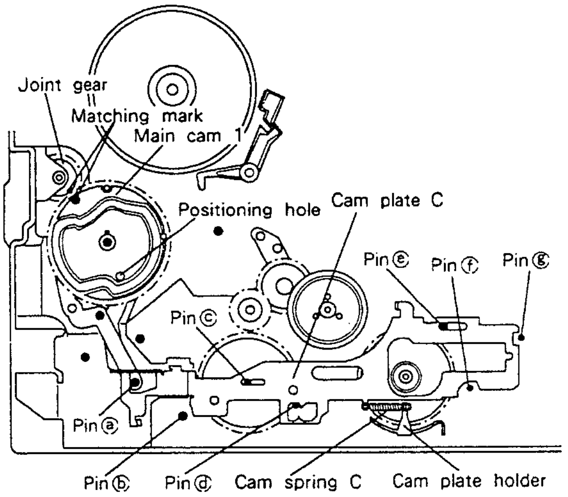

Joint gear
॥
Matching mark
Main cam 1
Positioning hole
Cam plate C
Pin ⓔ
Pin ⓕ
Pin ⓖ
Pin ⓒ
Pin ⓐ
Pin ⓑ
Pin ⓓ
Cam spring C
Cam plate holder

Fig. 2-15-2

F0D040

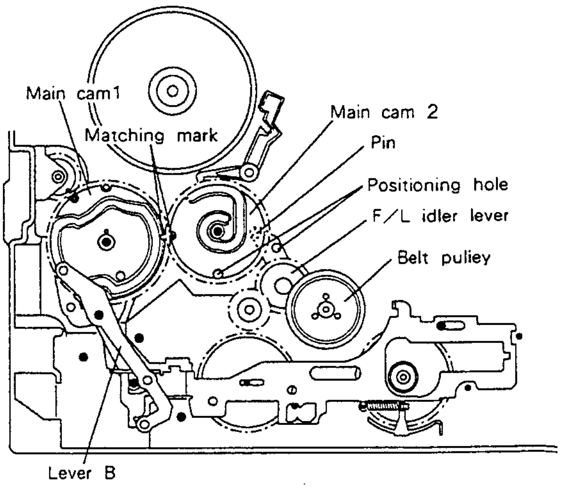

Main cam1
Matching mark
Main cam 2
Pin
Positioning hole
F/L idler lever
Belt pulley
Lever B

Fig. 2-15-3

F0D041

I. Make certain that the mode switch is in the eject position. Fasten the PCB-DECK assembly with five screws and solder the FE head terminals.(Refer to Fig. 2-14-2 and 2-14-1.)

Note:

The safety lever is normally held in the leftward position by the spring. Pull the lever forwards and install the PCB-DECK assembly.

J. Install the cam plate B so that the plate matches pins (ⓐ ~ ⓖ) as shown in Fig. 2-15-4, especially pin ⓔ, and secure the plate with three clamps, cut washer (pin ⓑ) and grip ring (pin ⓕ).

K. Line the matching mark of the loading arm T with that of the loading gear arm as shown in Fig. 2-15-4, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm enters the groove of the main cam 2. Secure arm with two grip rings ⓕ. (Refer to Fig. 2-15-5.)

L. Assemble the F/L gear 2, 3, and 4 to the shafts as shown in Fig. 2-15-5.

M. Install the reel belt. (Refer to Fig. 2-5.)

N. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS from the top side of the deck. (Refer to Fig. 2-11-1.)

O. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck. (Refer to Fig. 2-15-6.)

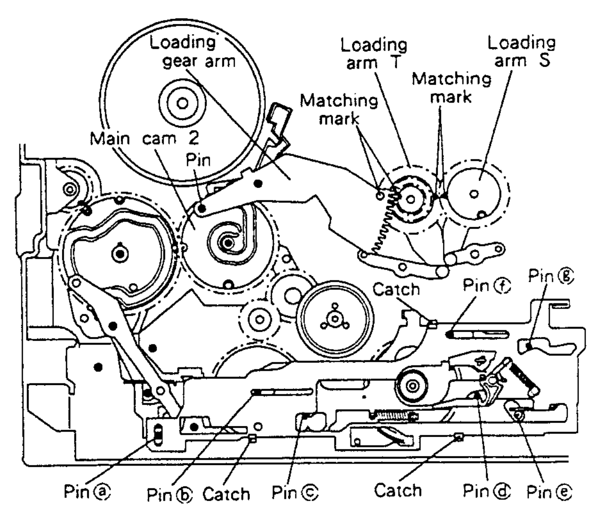

Loading gear arm
Main cam 2
Pin
Loading arm T
Matching mark
Matching mark
Loading arm S
Catch
Pin ⓕ
Pin ⓖ
Pin ⓐ
Pin ⓑ
Catch
Pin ⓒ
Catch
Pin ⓓ
Pin ⓔ

Fig. 2-15-4

F0D042

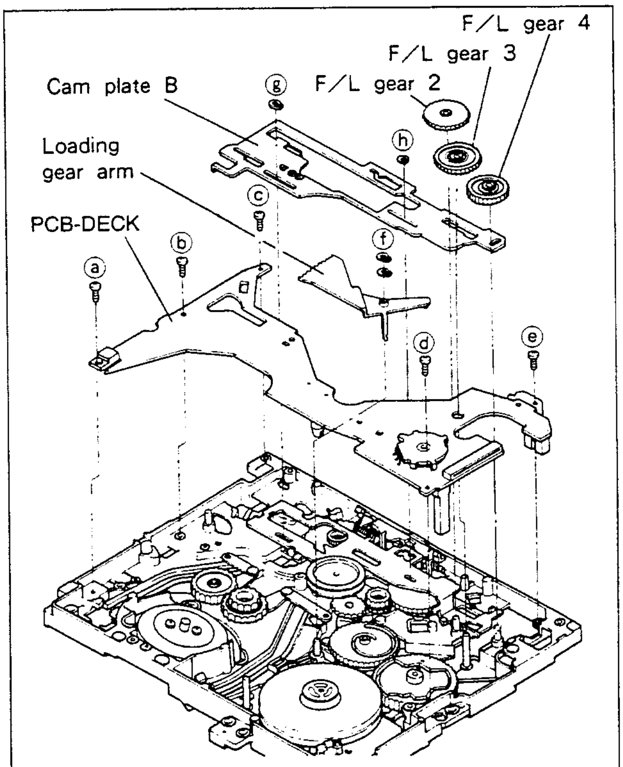

F/L gear 4
F/L gear 3
F/L gear 2
Cam plate B
ⓖ
ⓗ
Loading gear arm
ⓒ
PCB-DECK
ⓑ
ⓕ
ⓐ
ⓓ
ⓔ

Fig. 2-15-5

F0D037

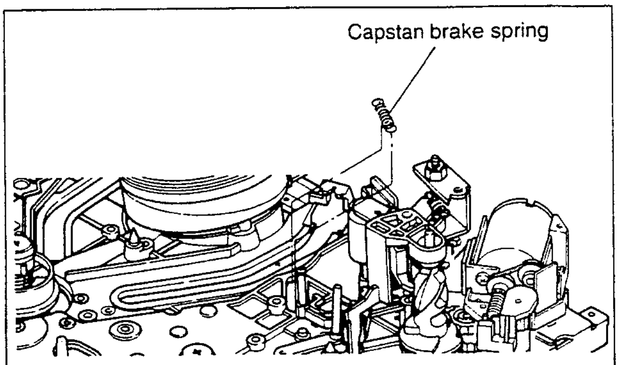

Capstan brake spring

Fig. 2-15-6

2-16 Supply and Takeup Guide Rollers

2-16-1 Removal(Refer to Fig. 2-16.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Loosen the set screw so the guide roller turns freely.
C. Loosen the guide roller height adjusting screw located at the top of the guide roller by turning counterclockwise with the height adjusting screwdriver. Raise and remove the roller from the tape guide.

2-16-2 Installation(Refer to Fig. 2-16.)

A. Make certain that the fastening thread section of a new guide roller is provided with a rubber ring.
B. Set the new guide roller in the tape guide fastening hole.
C. Turn the guide roller slowly clockwise till it becomes heavy.
D. Turn further about 1/6 turn from the point where the guide roller becomes heavy, and return the roller about one turn counter-clockwise.
E. Again turn the guide roller slowly clockwise till it becomes heavy. Turn the roller further about 1/6 turn from the point where the roller becomes heavy.
F. Secure the guide roller lightly with the set screw. Check and adjust the envelope as in Para. 3-2.

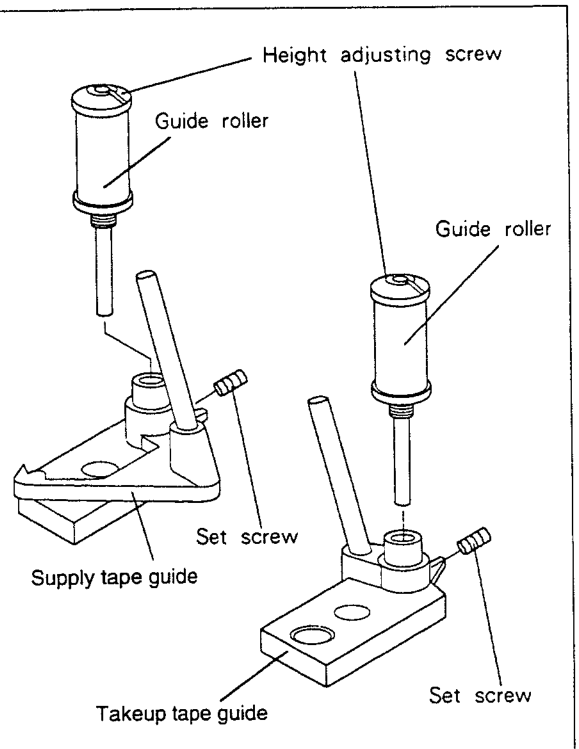

Height adjusting screw
Guide roller
Guide roller
Set screw
Supply tape guide
Takeup tape guide
Set screw
F0D043

Fig. 2-16

2-17 Supply and Takeup Tape Guide Assemblies

Note:
Refer to section 3-2-7 and 3-3-3 before replacing the supply or takeup tape guide assemblies.

2-17-1 Removal(Refer to Fig. 2-17-1~2-17-4.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Detach the capstan brake spring from the capstan brake and the loading gear arm.(Refer to Fig. 2-15-6.)
C. Remove the reel belt. (Refer to Fig. 2-5.)
D. Secure the tension arm and the tension regulation arm S with a rubber band etc. so as to separate them from the supply guide roller.(Refer to Fig. 2-17-1.)

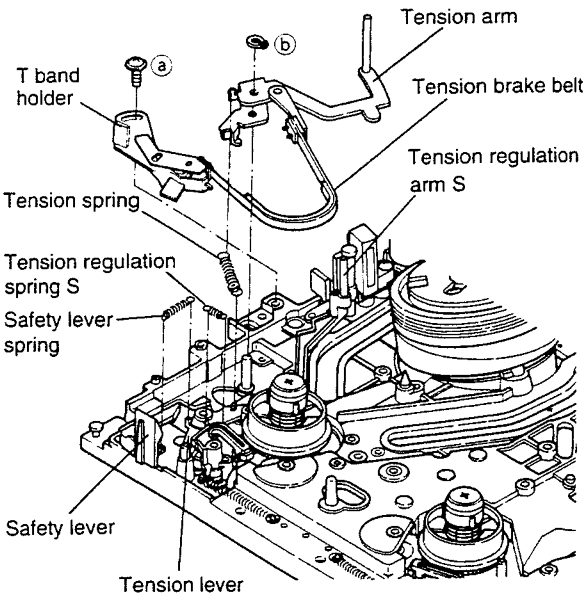

Tension arm
ⓑ
T band holder
ⓐ
Tension brake belt
Tension regulation arm S
Tension spring
Tension regulation spring S
Safety lever spring
Safety lever
Tension lever

Fig. 2-17-1

E. Remove the grip ring and remove the loading gear arm.(Refer to Fig. 2-17-2.)
F. Turn the loading arm S and T to the loading position.(Refer to Fig. 2-17-2.)
G. Unfasten the clamp shown in Fig. 2-17-3, and remove loading arm S.
H. Remove the loading arm T is being replaced the takeup guide assembly.
I. Unfasten the clamp of the slider which secures the supply or takeup tape guide assembly, and remove the tape guide assembly and the slider from the main plate.(Refer to Fig. 2-17-4.)

2-17-2 Installation(Refer to Fig. 2-17-1~2-17-4.)

A. Place a new tape guide assembly on the installation rail of the main plate and install the slider on the reverse side of the main plate so that the catch of the slider enters the fastening hole of the tape guide assembly.
B. If the takeup tape guide is replaced, install the loading arm T first.(Refer to Fig. 2-17-2.)
C. Install the loading arm T so that the matching mark of the loading arm S is lined with the matching mark of the loading arm T as illustrated in Fig. 2-17-2.
D. Line the matching mark of the loading gear arm with that of the loading arm T, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm enters the groove of the main cam 2. Secure the loading gear arm with two grip rings.
E. Install the reel belt.(Refer to Fig. 2-5.)
F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-17-1.)
G. Install the cassette housing as in Para. 2-1-2.

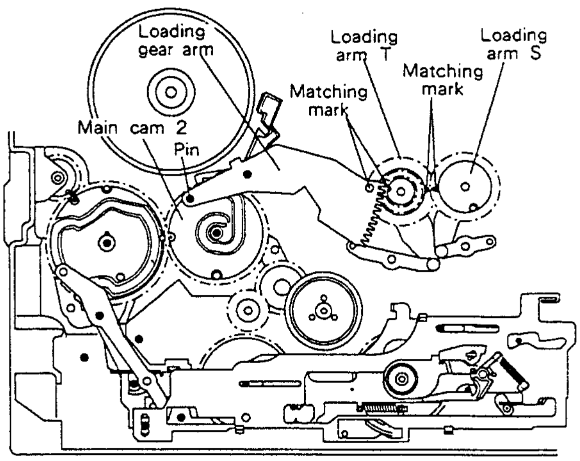

Loading gear arm
Loading arm T
Loading arm S
Matching mark
Matching mark
Main cam 2
Pin

Fig. 2-17-2 F0D044

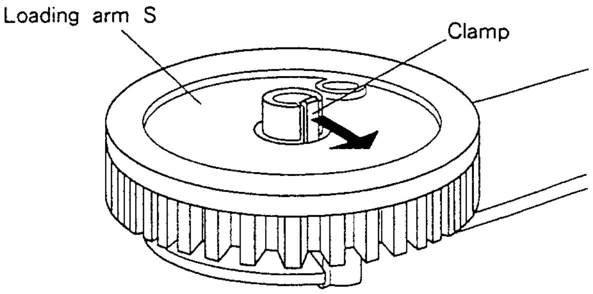

Loading arm S
Clamp

Fig. 2-17-3 F0D045

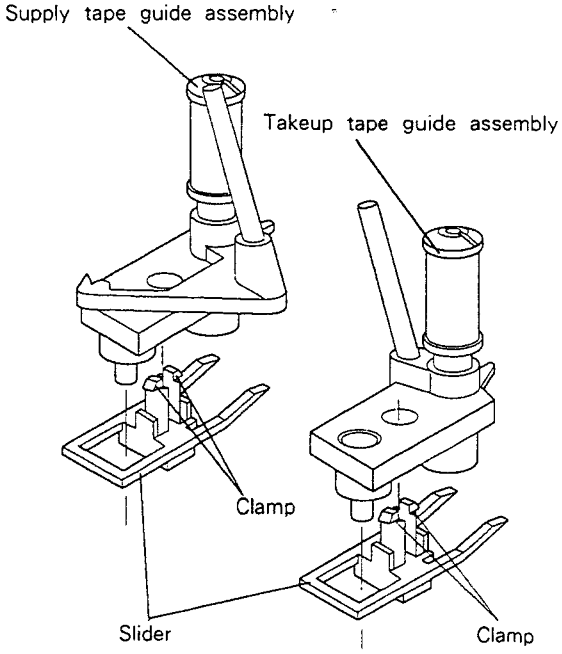

Supply tape guide assembly
Takeup tape guide assembly
Clamp
Slider
Clamp

Fig. 2-17-4 F0D046

3. Interchangeability Adjustment of Mechanism

Note:

Tracking may need to be preset in the inter-changeability adjustment of the mechanism.
Digital tracking should be preset. To preset, short circuit TP5A and TP5B on the PCB-MAIN.

Note:

The adjustment is conducted in the playback mode, using the stair step signal of the alignment tape, connect an oscilloscope to TP2A and external Trig. to TP2H, unless other-wise specified.

3-1 Adjustment of Back Tension and Tension Pole Position(Refer to Fig. 3-1.)

Run a blank tape for several minutes to break in the reel disks and the transport before beginning the adjustment.

A. Set the back tension measuring jig and set the VCR to the playback mode.

B. When the running of the tape becomes steady, make certain that the tension arm check hole is within the M/P hole of the main plate(0±0.5mm)or the interval between the centre of tension pole and the centre of Supply guide pole is 2.0±0.5mm.

C. If neither the centre of Tension pole nor the tension arm check hole is in position, loosen the T band holder fastening screw lightly and move the T band holder so that the condition specified by the para.B is satisfied.

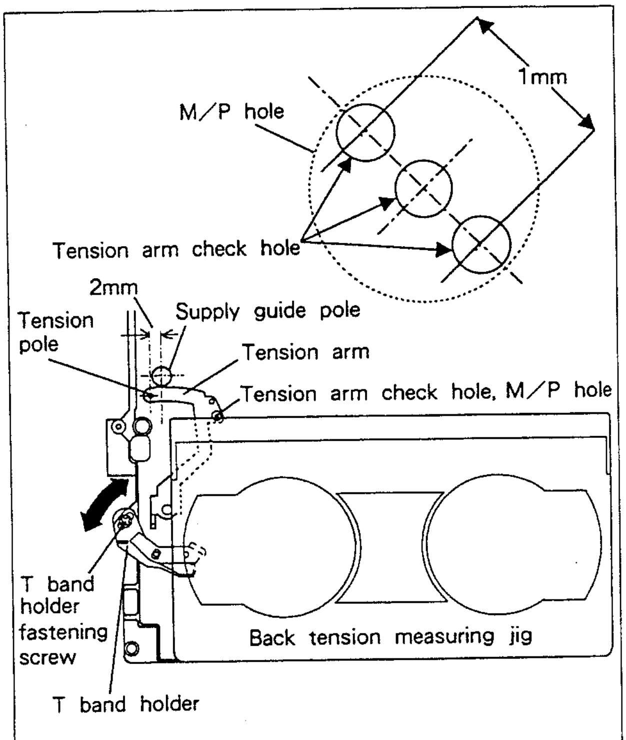
D. On completion of adjustment, tighten the T band fastening screw.

E. Make certain that the reading of the back tension measuring jig is 50±6g-cm.

F. When the running of the tape is steady, check visually to make certain that the deflection of the Tension pole is 1mm or less.

Note:

Slight fluctuation of back tension may be tolerated, however if fluctuation exceeds 5g-cm, the reel disk etc. may be defective. Examine and correct the defect.



M/P hole
1mm
Tension arm check hole
2mm
Tension pole
Supply guide pole
Tension arm
Tension arm check hole, M/P hole
T band holder fastening screw
Back tension measuring jig
T band holder
F0D047

Fig. 3-1

3-2 Check and Adjustment of FM Envelope

3-2-1 Guide Roller Adjustment(Refer to Fig. 3-2-1.)

A. Set the VCR to the playback mode.

B. Preset tracking.

C. Check if the FM waveform is flat like A shown in Fig. 3-2-1.

D. Adjust the height of the supply guide roller as in 3-2-2 if the leading portion (the entry side of the drum)of the FM waveform is not flat like B or C.
Adjust the height of the takeup guide roller as in 3-2-3 if the trailing portion (the exit side of the drum)is not flat like D or E.

3-2-2 Adjustment of Supply Guide Roller Height (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree so the supply guide roller turns lightly.(Refer to Fig. 3-2-2.)

B. The supply guide roller is low if the leading portion(the entry side of the drum) of the FM waveform is like B, and high if like C. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
- Turn the adjusting screw counterclockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

C. Carry out the coarse adjustment of phase as in 3-2-4.

3-2-3 Adjustment of Takeup Guide RollerHeight (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree as the takeup guide roller turns lightly.(Refer to Fig. 3-2-2.)

B. The takeup guide roller is low if the trailing portion(the exit side of the drum) of the FM waveform is like D, and high if like E. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
- Turn the adjusting screw counterclockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

C. On completion of height adjustment, adjust the azimuth and height of the A/C head as in 3-3-2.

D. Coarsely adjust the phase as in 3-2-4.

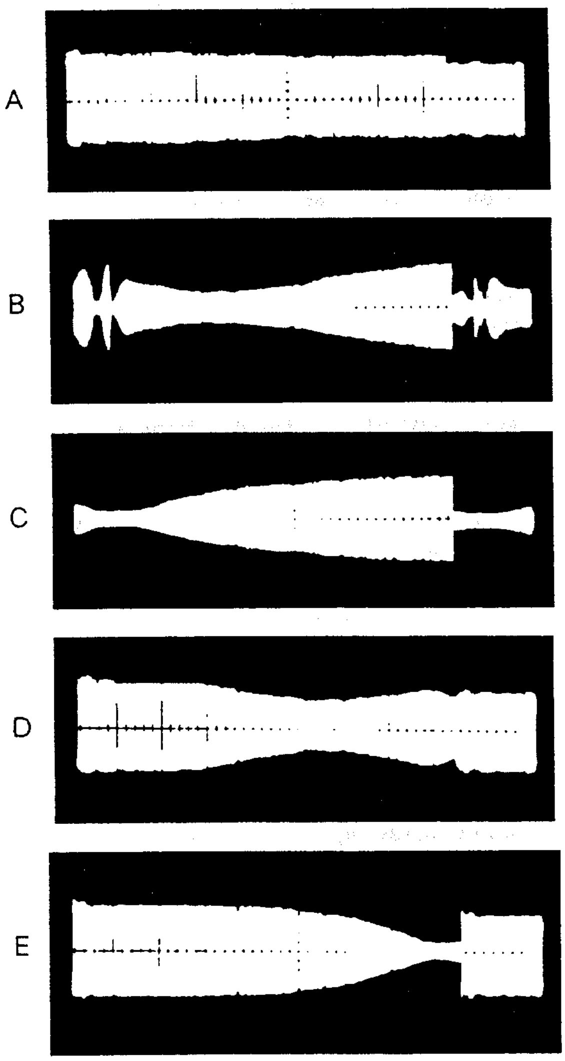


Fig. 3-2-1 F0D048~052

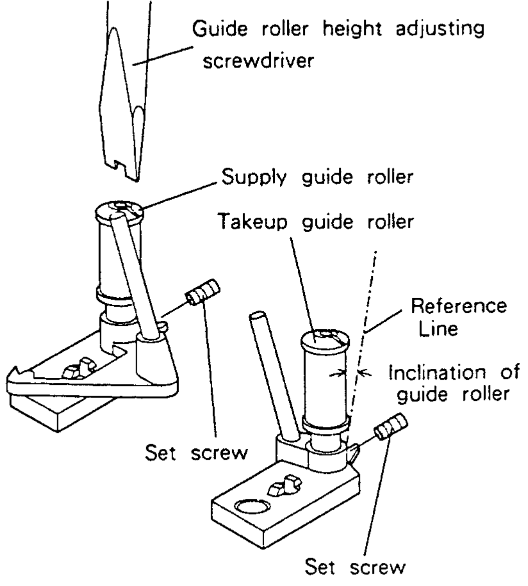


Fig. 3-2-2 F0D053

3-2-4 Coarse Phase Adjustment (Refer to Fig. 3-2-3, 3-2-4.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Check the FM waveform after checking and adjusting the guide rollers.
D. If the amplitude of the FM waveform is narrow like F because of out of phase, adjust the phase adjusting nut so that the amplitude of the FM waveform is maximum.

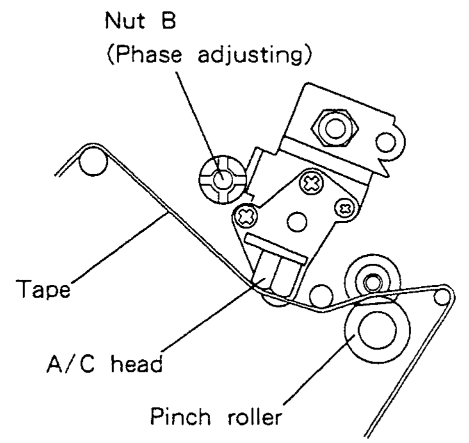
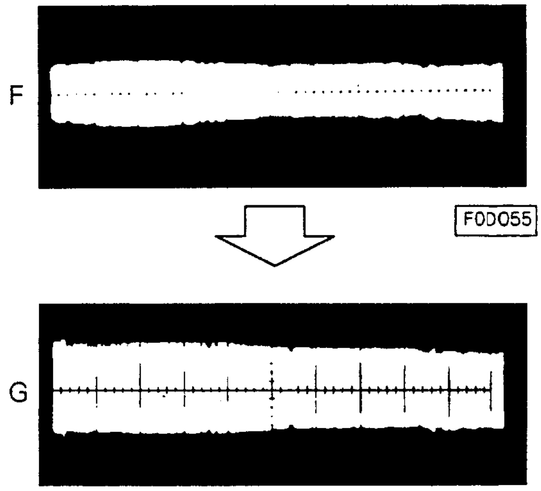


Fig. 3-2-3 F0D054

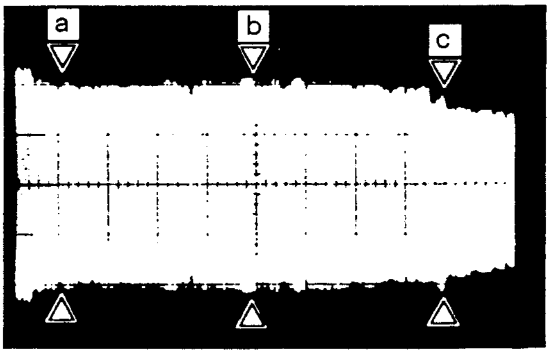


F0D055

Fig. 3-2-4 F0D056

3-2-5 Check of FM Waveform Flatness (Refer to Fig. 3-2-5.)

A. Set the VCR to the playback mode.
B. Set the tracking switch to the manual mode. Vary tracking and check if the amplitude changes and the waveform remains flat.
C. Adjust tracking in the manual mode so that the amplitude is maximum, and adjust the oscilloscope so that the amplitude is '5' on the scale of the oscilloscope.
D. Adjust tracking so that the amplitude at the middle(around the point 'b')of the FM wave form is about 80%('4' on the scale of the scope)of the maximum amplitude. Make certain that the amplitudes at points 'a' and 'c' satisfy the requirements given in Fig. 3-2-5.
E. If deviating from the requirements, conduct the check and adjustment of the FM envelope beginning with 3-2.



a	c
At least 2.8 of the scale	At least 2.8 of the scale

Fig. 3-2-5 F0D057

3-2-6 Check 1:Tape Running Condition on Guide Rollers(Refer to Fig. 3-2-6.)

A. Set the VCR to the playback mode.

B. Visually check if there is a space between the tape and the lower flange of the supply and the take up guide rollers.

C. If not, replace the tape guide as in 3-2-7.

Note:

In this case the tape guide should be replaced with the tape guide which has a larger inclination.

D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.

If the take up tape guide is replaced, check the guide roller as in 3-2-3, and the waveform flatness as in 3-2-5

E. Load and unload the tape several times to make certain that the flatness of the FM waveform does not change.

F. If changes occur, check the A/C arm shaft for looseness. If not free, replace the A/C arm and adjust the audio/ control head as in 3-3.

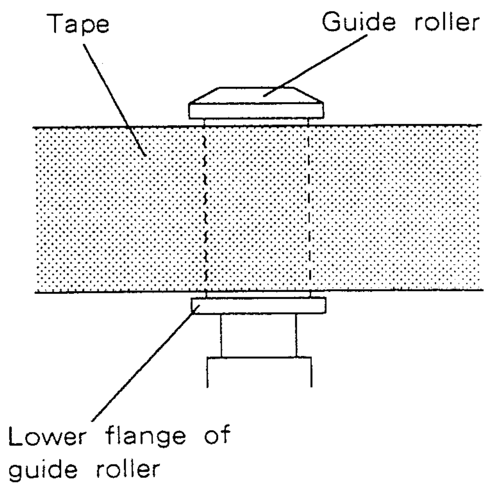


Fig. 3-2-6

F0D058

3-2-7 Replacement of Tape Guides

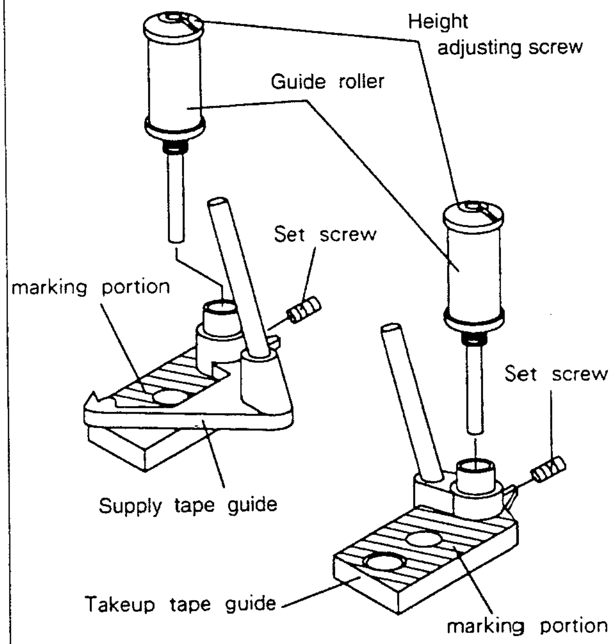
A. Identify the Item Number of the tape guide to be replaced. This is done by observing the marking present on the die-cast portion of the tape guide base, and comparing that marking to Fig. 3-2-7.

B. If the Item Number of the tape guide presently installed is a '2', replace the guide with an Item Number '1' guide.(Part No.635B059010)

C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '3' guide.

D. If the Item Number of the present tape guide is a '3', replace the guide with other Item Number '3' guide.

E. Once the tape guide is replaced, resume alignment starting with 3-2-1.



Identification of Tape Guide Item Number
(Example ; Parts No. 635B059010)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

※ The marking point is marked in the oblique line portion shown in figure above.

Fig. 3-2-7

3-2-8 Check 2: Tape Running Condition on Guide Rollers

A. Set the VCR to the playback mode.

B. Press the head of the supply guide roller and the take up guide roller lightly, and release the roller. Check if the FM waveform is quickly restored to the previous level.

C. If the FM waveform is not restored quickly, replace the tape guide as in 3-2-7.

D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.

If the takeup tape guide is replaced, check the guide roller as in 3-2-1, and check the FM waveform as flatness as in 3-2-5

E. If satisfactory, tighten the set screw of the guide roller on the supply side and the take up side.

3-3 Adjustment of Audio/Control Head

3-3-1 Adjustment of A/C Head Slant (Refer to Fig. 3-3-1.)

A. Play back a blank tape.

B. Turn the screw C slowly clockwise to crease the bottom edge of the tape slightly by the lower flange of the takeup guide pole.

C. Turn the screw C slowly counterclockwise to eliminate the crease of the bottom edge of the tape.

D. Turn the screw C slowly clockwise again and stop turning just before the tape is creased.

3-3-2 Adjustment of A/C Head Azimuth and Height(Refer to Fig. 3-3-1~3-3-3.)

A. Using stair step signal of alignment tape,connect an oscilloscope to the audio output terminal and set the VCR to the playback mode.

B. Turn the nut A(height adjusting)and the screw B(azimuth adjusting)so that the audio output level is maximum.

C. Turn the A/C head counterclockwise and release it to make certain that the audio output level does not change.

D. If the level changes, check if the A/C arm shaft is loose. If not free, replace the A/C arm and adjust the slant of the A/C head as in 3-3-1 and the azimuth and height of the A/C head from beginning.

E. Apply a force lightly to the A/C head shaft in the direction of A and A' of the arrow shown in Fig. 3-3-3, to make certain that the audio output level remains at maximum level and does not change.

F. If the level changes, turn the nut A(height adjusting)so that the audio output level is maximum. Apply a force lightly to the A/C head shaft in the direction of B and B' of the arrow shown in Fig. 3-3-3 and adjust so that the sound output level is maximum.

G. Check the sound output level in the playback mode to make sure that the fluctuation of the level is less than 2dBp-p.

H. If the fluctuation exceeds 2dBp-p, adjust the slant of the A/C head and the azimuth and height of the head.

I. If this is still not satisfactory, replace the takeup tape guide as outlined in 3-3-3.
Note:
In this case the tape guide should be replaced with a guide which has less inclination.

J. On completion of the above adjustment,adjust phase as in 3-4.

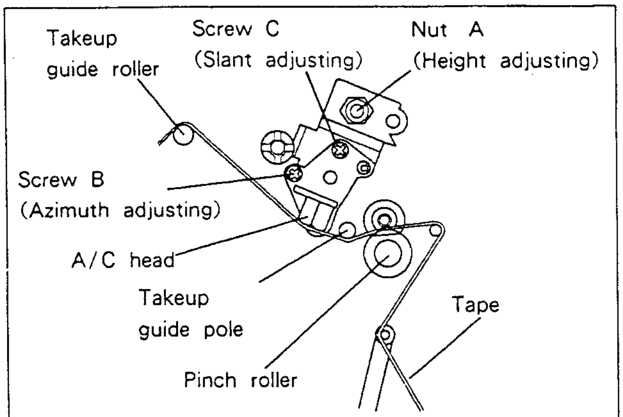


Fig. 3-3-1 F0D059

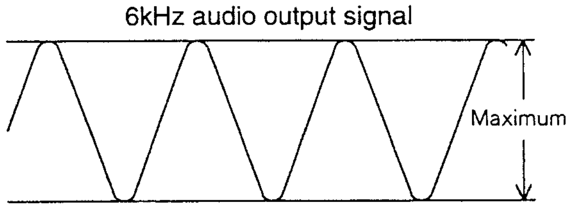


Fig. 3-3-2 F0D060

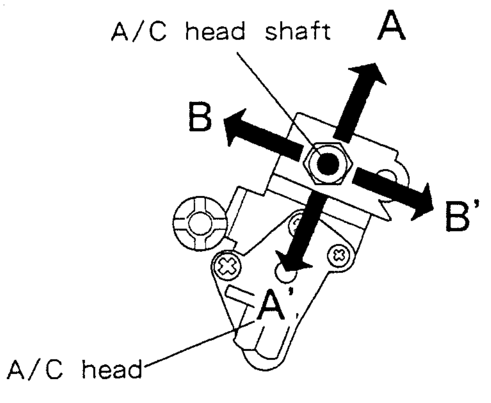


Fig. 3-3-3 F0D061

Identification of Tape Guide Item Number
(Example ; Parts No. 635B0600$\boxed{1}$0)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

※The marking points are marked in the tops of the Takeup and Supply tape guides.(Refer to Fig. 3－2－7)

Fig.3-3-4

3-3-3 Replacement of Tape Guides

A. Identify the Item Number of the Tape Guide to be replaced. This is done by observing the marking present on the die-cast portion of the Tape Guide base, and comparing that marking to Fig. 3-3-4.

B. If the Item Number of the tape guide presently installed is a '3', replace the guide with an Item Number '1' guide.

C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '2' guide.

D. If the Item Number of the present tape guide is a '2', replace the guide with other Item Number '2' guide.

E. Once the tape guide is replaced, resume alignment starting with 3-2-1.

3-4 Phase Adjustment(Refer to Fig. 3-4.)

A. Set the VCR to the playback mode.

B. Preset tracking.

C. Turn the phase adjusting nuts to make the amplitude of the FM waveform maximum.

Note:
Do not turn the phase adjusting nut more than one turn in either direction.

D. Turn the A/C head counterclockwise and return to make sure that the amplitude of the FM waveform is the same as that before turning the head.

E. If the amplitude changes, check the A/C arm shaft if loose. If not free, replace the A/C arm and adjust the A/C head as in 3-3 and the phase as in this section from beginning.

F. Load and unload the tape several times to make certain that the amplitude of the FM waveform does not change.

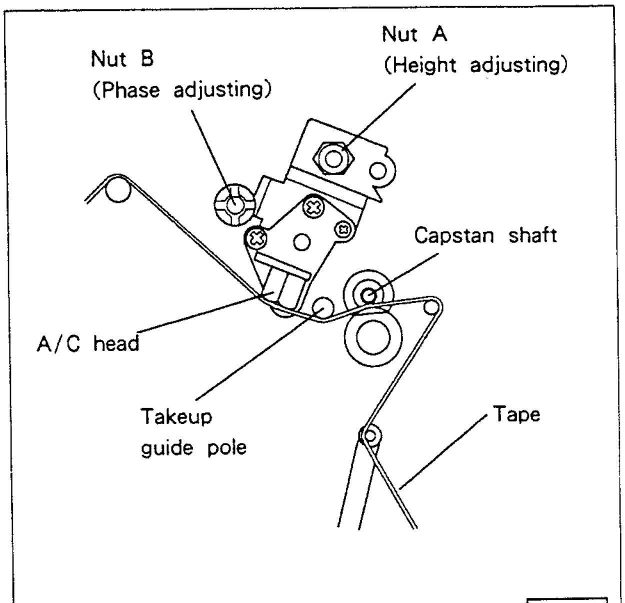


Fig. 3-4 F0D062

3-5 Adjustment of Takeup Guide Arm Height (Refer to Fig. 3-5.)

A. Run a final portion of E-240 blank tape in the reverse search mode.

B. Adjust the height of the takeup guide pole by turning the height adjusting nut so that the tape shall not be creased at the upper and the lower flange portion of the take up guide pole.

Note:
Set the adjusting nut in the screwing-in direction.
Do not turn the nut more than one turn in either direction.

C. Eject the cassette tape and set to the reverse search mode again to make certain that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.

D. Set to the playback mode and be sure that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.

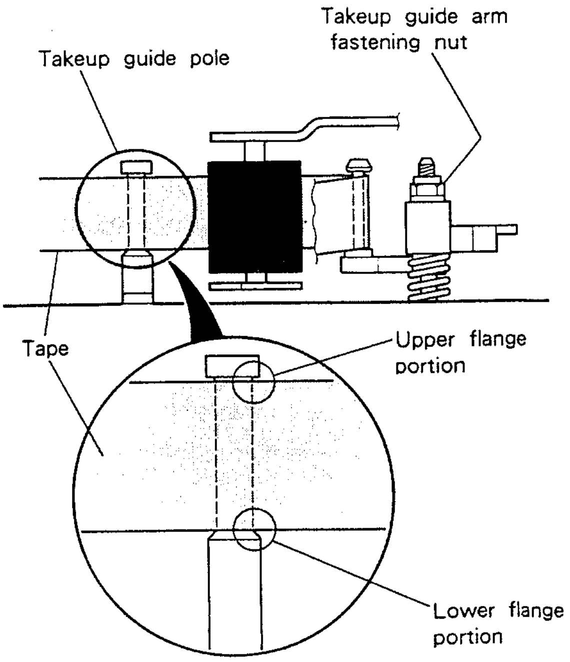


Fig. 3-5 F0D063

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the cautions as follows.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron) about 30 watts and the tweezers.
B. Melting the solder, remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to the new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch when soldering, or damage the Chip Parts.
G. Supplementary cementing is not required.

1 Removal of chip Parts (Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melting the solder at both side alternately, remove the one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

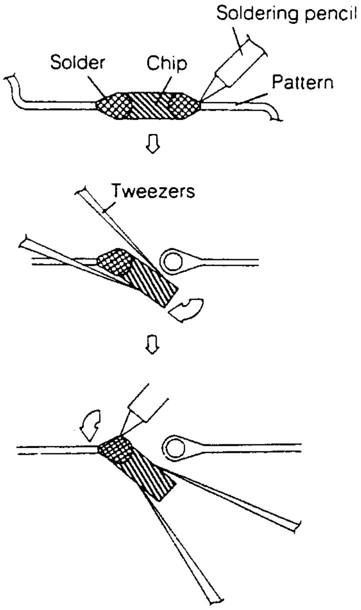

Soldering pencil
Solder
Chip
Pattern
Tweezers

Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melting the solder of one lead, Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part to remove.

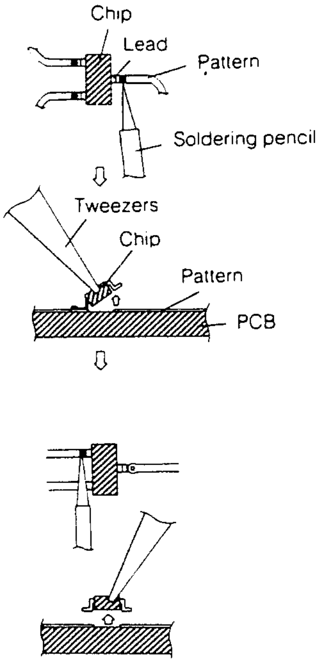

Chip
Lead
Pattern
Soldering pencil
Tweezers
Chip
Pattern
PCB

Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in the figure.

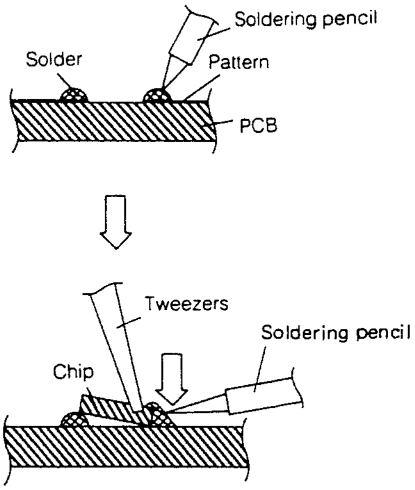

Soldering pencil
Solder
Pattern
PCB
Tweezers
Soldering pencil
Chip

Fig. 3

KEY TO ABBREVIATIONS

A/C :Audio/Control
ACC :Automatic Colour Control
A.E :Audio Erase
AFC :Automatic Frequency Control
AFT-D :Automatic Fine Tuning Door Switch
AGC :Automatic Gain Control
AL :After Loading
AMP :Amplifire
ANT :Antenna
A-PB :Audio-Playback
A-REC :Audio Recording
ALC :Automatic Level Control

BPF :Band-Pass Filter
B/W :Black and White
BS :Band Switch

CASS :Cassette
CP :Capstan
CP-FG :Capstan-Frequency Generato
CP-F/R :Capstan-Forward/Reverse
CP-M :Capstan-Motor
CONV :Converter
CTL :Control
C-LAMP :Cassette Lamp
C-I LAMP :Cassette Indicator Lamp
:

DAL :Delay-After Loading
DEMOD :Demodulator
DET :Detector
DL :Delay Line
DL-REV :Delay Reverse
DL-FWD :Delay Forward
DOC :Dorop Out Compensator
:

EF :Emitter Follower
EMPHA :Emphasis
EQ :Equalizer
EE :Electronic-Electronic
ES :End Sensor

FE-H :Full Erase Head
FF :Flip Flop or Fast Forward
FG :Frequency Generater
FL-SW :Front Loading Switch
FLM :Front Loading Moter
F/R-SW :FF/Rewind Switch

G :Ground

HE-1 :Hall Element-1
HE-2 :Hall Element-2
H-LED :Humidity-LED
H-SENS :Humodity-Sensor
HPF :High-Pass Filter

LIM :Limiter
LPF :Low-Pass Filter
LM :Loading Motor

MDA :Motor Drive Amplifire
MC :Mechanical Control
MIC :Microphone
MOD :Modulator

OPE :Operation
OSC :Oscillator

PB :Play Back
PG :Pulse Generator
P/R-SW :P.B/REC-Switch
PCB :PrintedCircuit Board
PIC :Picture Control

REC :Recording
REF :Reference
RIS :Record Inhibit Switch
REW :Rewind
REG :Regulator
RS :Reverse Search

SENS :Sensor
SM :Supply Motor
S/P :Still/Pause
SS :Speed Search
STBY :Stand by
S&H :Sample & Hold
SYNC SEP :Sync Separator

TM :Takeup Motor
T-REC :Timer-Recording
T.P. :Test point
TR :Transistor
TU-P :Tuner-Power

UL :Unloading

VS :Voltage Synthesizer
V.SYNC :Vertical Sync
VCO :Voltage Control Oscillator
VXO :Vertical Crystal Oscillator

W/D :White/Dark

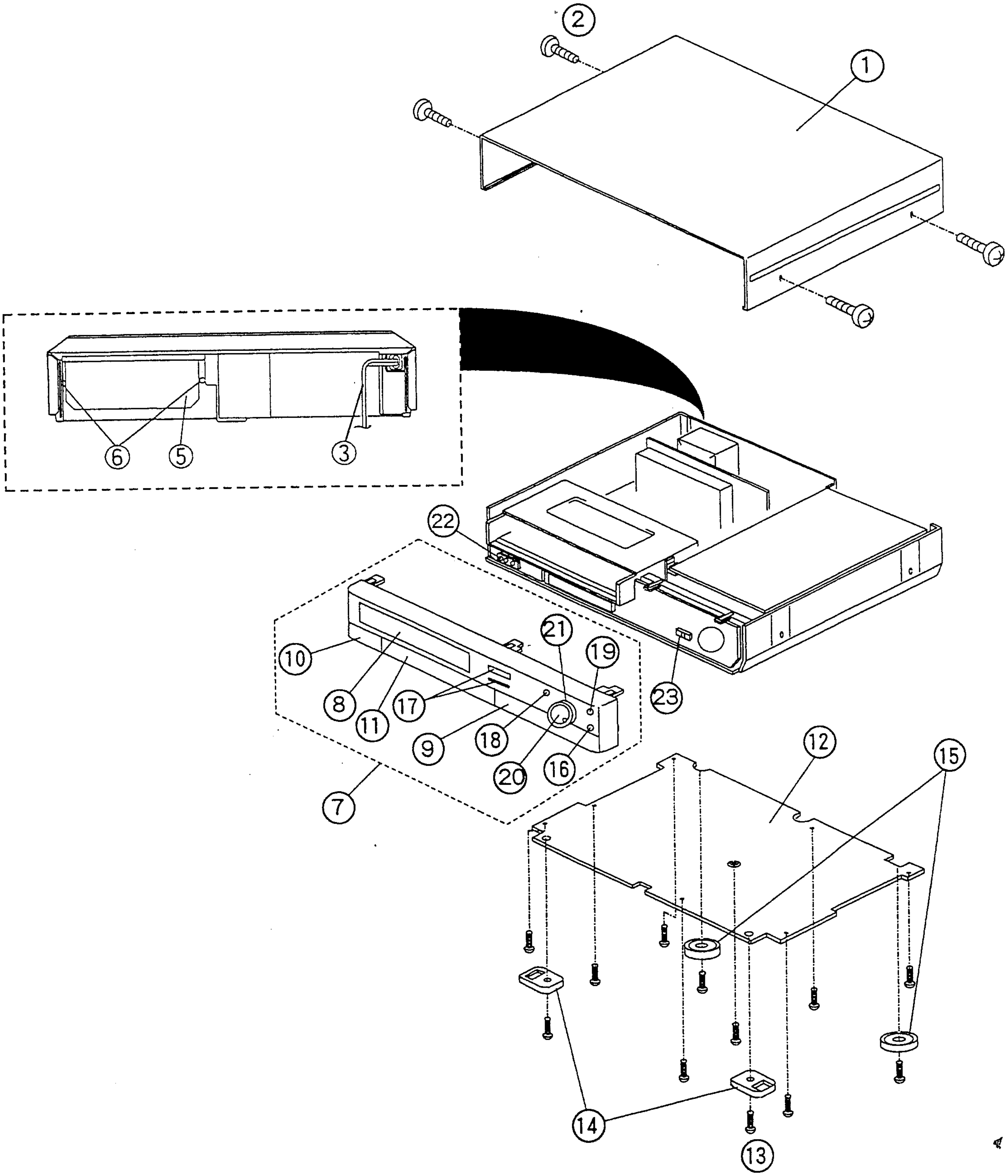
X'OSC :Crystal Oscillator

Y/C :Luminance/Chrominance

〔MEMO〕

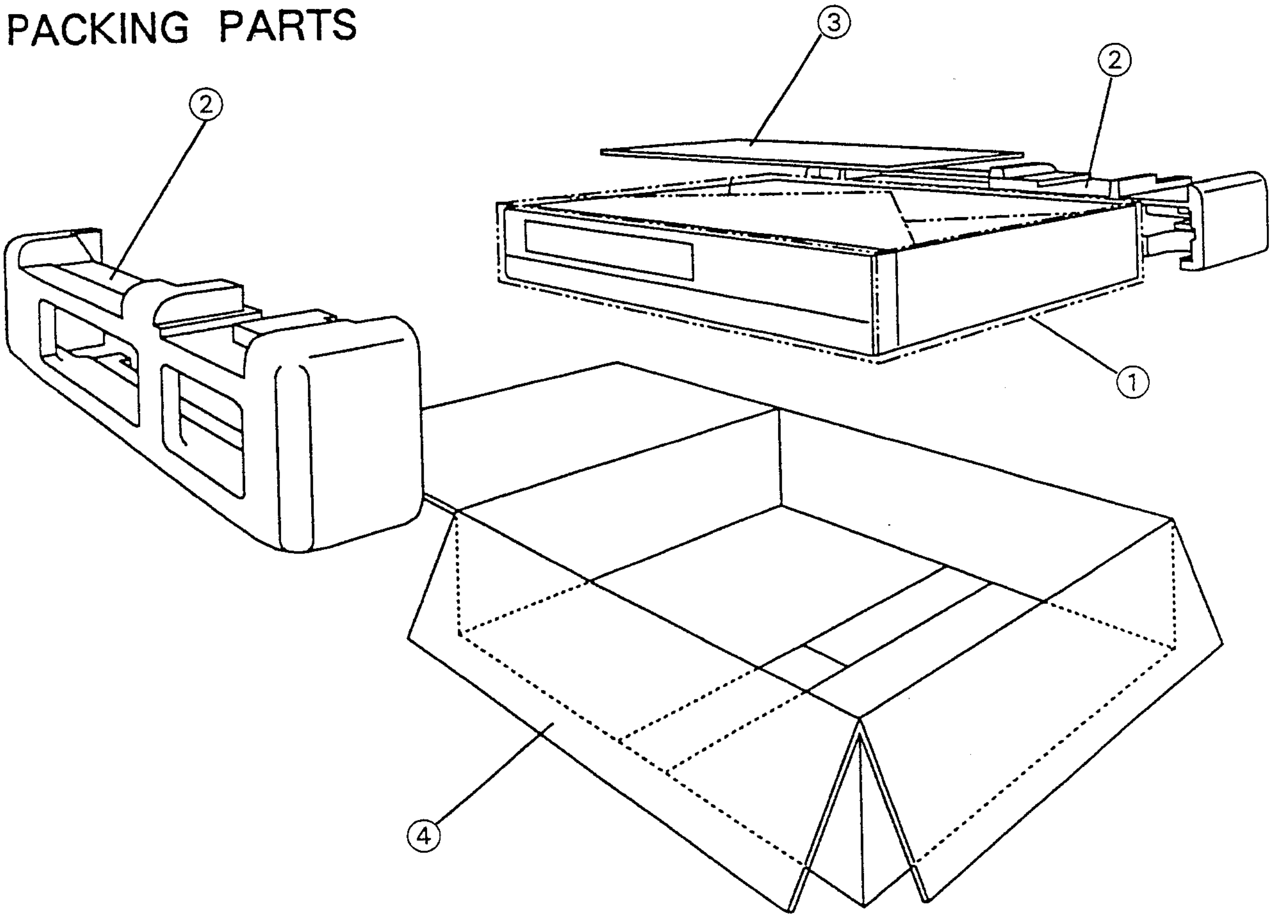
PARTS LIST

1.CABINET ASSEMBLY

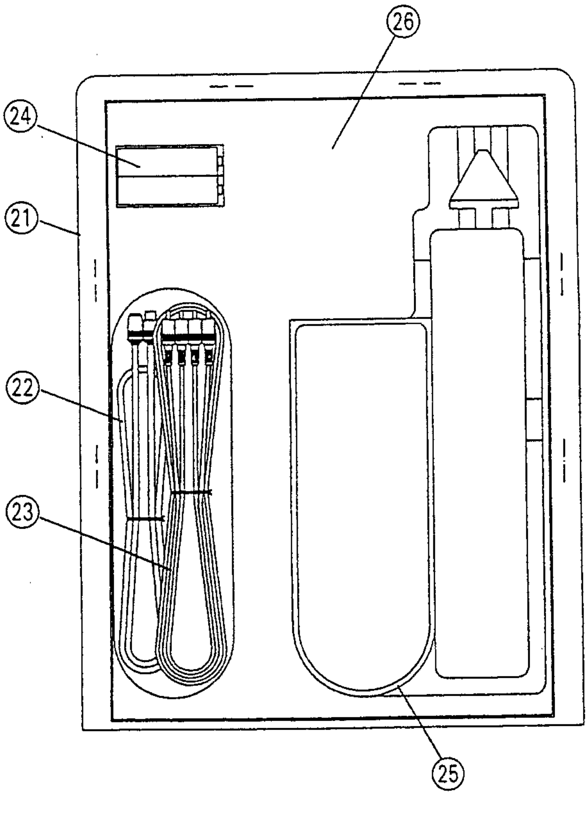

②
①
⑥
⑤
③
㉒
㉑
⑲
⑩
⑧
⑰
⑪
⑱
⑨
⑳
⑯
⑦
㉓
⑫
⑮
⑭
⑬

ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CABINET ASSEMBLY			
1	968C020090	TOP COVER ASSY	
2	669D223080	SCREW	3X10
3	246C101010	AC POWER CORD	
5	761B253070	ANTENNA COVER	
6	669D359040	SCREW	3X12
7	701B300050	FRONT UNIT	
8	702B892030	CASSETTE DOOR	
9	752C054060	PANEL DOOR R	
10	752C055050	PANEL DOOR L	
11	702B893020	TIMER PANEL	
12	590A267010	BOTTOM PANEL	
13	669D220030	SCREW	3X10 46LA005
14	771B083010	INSULATOR-F	
15	771C138010	INSULATOR-R	
16	704C883030	PAUSE BUTTON	
17	704C886010	POWER/EJECT BUTTON	
18	704C876030	PLAY BUTTON	
19	704C770030	STOP BUTTON	
20	704C870010	JOG DIAL	
21	704C871010	SHUTTLE RING	
22	440C267010	PIN JACK BOARD	
23	703D122010	SWITCH COVER	

2. PACKING PARTS



ACCESSORY



26
24
21
22
23
25

ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
PACKING PARTS			
1	831D190030	PACKING SHEET	800X800
2	803A358010	PACKING CUSHION	
3	----------	ACCESSORY	
4	802B446070	PACKING CASE	
	831D198030	PACKING BAG	FOR AC POWER CORD
ACCESSORY			
21	829B013040	ACCESSORY PACK	
22	242D231030	CABLE	1.5m
23	242C938010	PHONO CABLE	2P R&W 1.5m
24	----------	BATTERY	
25	939P530010	REMOTE HAND UNIT	
26	872C109030	INSTRUCTION BOOK	

3. ELECTRICAL PARTS

INTEGRATED CIRCUITS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
IC101	272P863020	IC	TDA9800
IC102	266P192010	IC	LA7910
IC107	272P654010	IC	M51497L
IC108	272P862010	IC	LA7975
IC201	272P221020	IC	XRA7254S
IC2A0	272P701020	IC	LA7393AST-S
IC2A1	272P702010	IC	LC8992
IC2A3	270P067010	IC	BA7645N
IC3A0	272P845010	IC	AN3316K
IC3A1	270P046010	IC	BA7644AN
IC3A2	270P046010	IC	BA7644AN
IC3000	272P844020	IC	AN3976NFBP
IC3001	266P419010	IC	M5223P
IC3310	272P200020	IC	M5201L
IC4A0	274P159020	IC	BU2835AS
IC4A1	272P079010	IC	NJM2902M
IC4A2	272P235010	IC	TA7291S
IC501	274P163010	IC	M35010-051SP
IC5A0	274P357010	IC	M37424M8-334SP
IC5A2	272P079010	IC	NJM2902M
IC5A3	263P611010	IC	MC14011BF
IC8A0	274P395010	IC	μPD75218GF-522-3BE
IC8A1	263P593010	IC	CAT35C104P
IC8A2	266P010020	IC	μPC574J-K
IC9A0	272P237010	IC	LA6324N

TRANSISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 101	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 102	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 103	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 116	260P807010	CHIP TRANSISTOR	DTC124EK
Q 171	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 172	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 208	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 210	260P807010	CHIP TRANSISTOR	DTC124EK
Q 290	260P807010	CHIP TRANSISTOR	DTC124EK
Q 291	260P807010	CHIP TRANSISTOR	DTC124EK
Q 292	260P807010	CHIP TRANSISTOR	DTC124EK
Q 2A1	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B1	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B2	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 2B5	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 2B6	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B8	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B9	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2C3	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2C4	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2C5	260P807010	CHIP TRANSISTOR	DTC124EK
Q 2C8	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2D0	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2D4	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2D5	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2D6	260P255040	TRANSISTOR	2SA950-Y
Q 2E1	260P562040	TRANSISTOR	2SA952-K
Q 2E3	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2E6	260P807010	CHIP TRANSISTOR	DTC124EK
Q 2E7	260P562040	TRANSISTOR	2SA952-K
Q 2P0	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2P1	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2P2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2P4	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2P5	260P807010	CHIP TRANSISTOR	DTC124EK
Q 2P6	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2P7	260P807010	CHIP TRANSISTOR	DTC124EK
Q 2R2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2S1	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2S3	260P807010	CHIP TRANSISTOR	DTC124EK
Q 3A1	260P603010	TRANSISTOR	UN4112
Q 3A2	260P559060	TRANSISTOR	2SC1740S-S, E
Q 3A3	260P559030	TRANSISTOR	2SC1740S-S
Q 3A4	260P559030	TRANSISTOR	2SC1740S-S
Q 3B4	260P632010	TRANSISTOR	DTC124ES
Q 3B6	260P632010	TRANSISTOR	DTC124ES
Q 3B7	260P632010	TRANSISTOR	DTC124ES
Q 3006	260P603010	TRANSISTOR	UN4112
Q 3007	260P632010	TRANSISTOR	DTC124ES
Q 3020	260P559030	TRANSISTOR	2SC1740S-S
Q 3200	260P632010	TRANSISTOR	DTC124ES
Q 3201	260P632010	TRANSISTOR	DTC124ES
Q 3202	260P603010	TRANSISTOR	UN4112
Q 3208	260P560040	TRANSISTOR	2SA933S-S
Q 3209	260P562040	TRANSISTOR	2SA952-K
Q 3210	260P559030	TRANSISTOR	2SC1740S-S
Q 3307	260P522020	TRANSISTOR	2SC3068-AA
Q 3308	260P522020	TRANSISTOR	2SC3068-AA
Q 3309	260P603010	TRANSISTOR	UN4112
Q 3311	260P559030	TRANSISTOR	2SC1740S-S
Q 3315	260P560040	TRANSISTOR	2SA933S-S
Q 3316	260C676040	TRANSISTOR	2SC3311A-R, S
Q 3317	260C676040	TRANSISTOR	2SC3311A-R, S
Q 3318	260P629060	TRANSISTOR	2SC3331-S, T, U
Q 3325	260P632010	TRANSISTOR	DTC124ES
Q 3408	260P559060	TRANSISTOR	2SC1740S-S, E
Q 3409	260P632010	TRANSISTOR	DTC124ES
Q 4A1	260P459010	TRANSISTOR	2SK381-A
Q 4A3	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 4A4	260P560040	TRANSISTOR	2SA933S-S
Q 4A5	260P806010	CHIP TRANSISTOR	DTA124EK
Q 4A7	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 4A8	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 4A9	260P806010	CHIP TRANSISTOR	DTA124EK
Q 4E1	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 4S0	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 501	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 502	260P807010	CHIP TRANSISTOR	DTC124EK
Q 503	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 504	260P804030	CHIP TRANSISTOR	2SC3052-G

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 506	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 508	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 509	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 571	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 572	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 573	268P044010	PHOTO INTERRUPTER	ON2270-(LJ).MI
Q 574	268P044010	PHOTO INTERRUPTER	ON2270-(LJ).MI
Q 575	268P045010	PHOTO INTERRUPTER	GP1L52V
Q 581	260P455010	TRANSISTOR	DTC124EF
Q 582	260P455010	TRANSISTOR	DTC124EF
Q 583	260P455010	TRANSISTOR	DTC124EF
Q 5A0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5A1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A2	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A3	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5A4	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5A5	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5A6	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A8	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A9	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5B0	260P586050	TRANSISTOR	2SB892-T, U
Q 5B1	260P585030	TRANSISTOR	2SD1682-T, U
Q 5B2	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5B3	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5B4	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5B5	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5B6	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5B7	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C1	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C2	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 5C3	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5D1	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5G0	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5G1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5G2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 5G3	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5G4	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5G5	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5G6	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5G7	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5G8	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5G9	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5H0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5H2	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5H4	260P807010	CHIP TRANSISTOR	DTC124EK
Q 5J0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5J1	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5S0	260P807010	CHIP TRANSISTOR	DTC124EK
Q 8A5	260C675010	TRANSISTOR	2SA1309A-R, S
Q 8A8	260P559060	TRANSISTOR	2SC1740S-S, E
Q 8P3	260P560010	TRANSISTOR	2SA933S-R, S
Q 8P5	260P560010	TRANSISTOR	2SA933S-R, S
Q 8P7	260C675010	TRANSISTOR	2SA1309A-R, S
Q 901	260P560040	TRANSISTOR	2SA933S-S

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 902	260C628010	TRANSISTOR	2SA1619A-Q
Q 903	260P560030	TRANSISTOR	2SA933S-R, F
Q 971	260P630010	TRANSISTOR	2SD2012
Q 9A1	260P630010	TRANSISTOR	2SD2012
Q 9A2	260P630010	TRANSISTOR	2SD2012
Q 9A3	260P630010	TRANSISTOR	2SD2012
Q 9A4	260P613010	TRANSISTOR	2SC4208A

DIODES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 171	264P568010	DIODE	1SS252
D 173	264P568010	DIODE	1SS252
D 202	264P568010	DIODE	1SS252
D 2A3	264P568010	DIODE	1SS252
D 2A6	264P568010	DIODE	1SS252
D 2A8	264P568010	DIODE	1SS252
D 2D0	264P568010	DIODE	1SS252
D 2S0	264P568010	DIODE	1SS252
D 2S1	264P568010	DIODE	1SS252
D 2X0	264P568010	DIODE	1SS252
D 2X1	264P568010	DIODE	1SS252
D 2X2	264P568010	DIODE	1SS252
D 3A1	264P568010	DIODE	1SS252
D 3A2	264P568010	DIODE	1SS252
D 3A3	264P568010	DIODE	1SS252
D 3A4	264P568010	DIODE	1SS252
D 3A5	264P568010	DIODE	1SS252
D 3B2	264P568010	DIODE	1SS252
D 3B4	264P568010	DIODE	1SS252
D 3000	264P568010	DIODE	1SS252
D 3001	264P568010	DIODE	1SS252
D 3002	264P568010	DIODE	1SS252
D 3003	264P568010	DIODE	1SS252
D 3005	264P568010	DIODE	1SS252
D 3006	264P568010	DIODE	1SS252
D 3007	264P568010	DIODE	1SS252
D 3008	264P568010	DIODE	1SS252
D 3020	264P568010	DIODE	1SS252
D 3208	264P568010	DIODE	1SS252
D 3302	264P568010	DIODE	1SS252
D 3404	264P568010	DIODE	1SS252
D 3405	264P568010	DIODE	1SS252
D 3406	264P568010	DIODE	1SS252
D 4A0	264P568010	DIODE	1SS252
D 4A6	264P568010	DIODE	1SS252
D 501	264P568010	DIODE	1SS252
D 570	264P307020	LIGHT EMITTING DIODE	GL-451
D 571	264P515010	DIODE	MA165
D 5A0	264P568010	DIODE	1SS252
D 5A1	264P568010	DIODE	1SS252
D 5A3	264P808010	CHIP DIODE	DAN202K
D 5A5	264P342070	DIODE	HZ4C2
D 5A7	264P500020	DIODE	EM01Z
D 5A8	264P592010	DIODE	HZ18-2L
D 5B0	264P568010	DIODE	1SS252
D 5B1	264P808010	CHIP DIODE	DAN202K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 5B2	264P568010	DIODE	1SS252
D 5B4	264P808010	CHIP DIODE	DAN202K
D 5B5	264P568010	DIODE	1SS252
D 5B6	264P568010	DIODE	1SS252
D 5B7	264P568010	DIODE	1SS252
D 5B9	264P452030	DIODE	HZ5C3
D 5C1	264P568010	DIODE	1SS252
D 5C3	264P808010	CHIP DIODE	DAN202K
D 5C5	264P568010	DIODE	1SS252
D 5C6	264P568010	DIODE	1SS252
D 5C8	264P808010	CHIP DIODE	DAN202K
D 5D0	264P568010	DIODE	1SS252
D 5H0	264P808010	CHIP DIODE	DAN202K
D 5J0	264P808010	CHIP DIODE	DAN202K
D 701	264P621010	LIGHT EMITTING DIODE	SEL2210R TP2
D 8A3	264P568010	DIODE	1SS252
D 8A4	264P568010	DIODE	1SS252
D 8A5	264P568010	DIODE	1SS252
D 8A6	264P568010	DIODE	1SS252
D 8B0	264P568010	DIODE	1SS252
D 8B1	264P568010	DIODE	1SS252
D 8B2	264P568010	DIODE	1SS252
D 8B3	264P568010	DIODE	1SS252
D 8C0	264P568010	DIODE	1SS252
D 8E1	264P568010	DIODE	1SS252
D 8E2	264P568010	DIODE	1SS252
D 8E3	264P568010	DIODE	1SS252
D 8E4	264P568010	DIODE	1SS252
D 8J0	264P568010	DIODE	1SS252
D 8J2	264P568010	DIODE	1SS252
D 8J6	264P568010	DIODE	1SS252
D 8J7	264P568010	DIODE	1SS252
D 8J8	264P568010	DIODE	1SS252
D 8X1	264P568010	DIODE	1SS252
D 8Z0	264P501040	DIODE	HZ3ALL
D 8Z1	264P485050	DIODE	RD7.5FB1
D 8Z2	264P193080	DIODE	MZ309B2/HZ9B24
D 901	264P430030	DIODE	DSA3A1 FORMING 15MM
D 902	264P430030	DIODE	DSA3A1 FORMING 15MM
D 903	264P430030	DIODE	DSA3A1 FORMING 15MM
D 904	264P430030	DIODE	DSA3A1 FORMING 15MM
D 905	264P430030	DIODE	DSA3A1 FORMING 15MM
D 906	264P430030	DIODE	DSA3A1 FORMING 15MM
D 907	264P430030	DIODE	DSA3A1 FORMING 15MM
D 908	264P430030	DIODE	DSA3A1 FORMING 15MM
D 913	264P500020	DIODE	EM01Z
D 914	264P500020	DIODE	EM01Z
D 915	264P568010	DIODE	1SS252
D 916	264P568010	DIODE	1SS252
D 917	264P104040	DIODE	HZ30-2
D 9A0	264P568010	DIODE	1SS252

FILTERS

CF101	296P104010	CERAMIC TRAP	EFC-S3F01W3A
CF151	296P014030	CERAMIC FILTER	SFE-6.0MHZ

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CF171	299P051050	CERAMIC RESONATOR	CSB500F9
CF181	299P034030	CERAMIC RESONATOR	CSB500E5
CF5A0	299P116010	CERAMIC RESONATOR	KBR-4.0KES
SF101	296P119010	SAW FILTER	

DELAY LINES

DL2A0	337P081010	DELAY LINE	CF873

COILS

L 11	325C111030	PEAKING COIL	10μH-K
L 103	323P187010	VIF COIL	292GIAS-6716BS
L 105	411P011010	BEADS FERRITE	ZBF503S-P
L 107	325C170050	PEAKING COIL	2.2μH-K SHIELD
L 108	325C166000	PEAKING COIL	5.6μH-J
L 109	325C166060	PEAKING COIL	18μH-J
L 113	325C165030	PEAKING COIL	1.5μH-J
L 181	325C166030	PEAKING COIL	10μH-J
L 201	325C122050	PEAKING COIL	100μH-K
L 206	325C166070	PEAKING COIL	22μH-J
L 210	325C166070	PEAKING COIL	22μH-J
L 211	325C166000	PEAKING COIL	5.6μH-J
L 213	325C167050	PEAKING COIL	100μH-J
L 219	325C167040	PEAKING COIL	82μH-J
L 220	325C167070	PEAKING COIL	150μH-J
L 2A8	325C166060	PEAKING COIL	18μH-J
L 2A9	325C167080	PEAKING COIL	180μH-J
L 2B0	325C166090	PEAKING COIL	33μH-J
L 2B1	325C166060	PEAKING COIL	18μH-J
L 2B2	325C168010	PEAKING COIL	330μH-J
L 2B4	325C165070	PEAKING COIL	3.3μH-J
L 2B5	325C166020	PEAKING COIL	8.2μH-J
L 2B8	321C112050	RF COIL	100μH-K
L 2B9	321C112050	RF COIL	100μH-K
L 2C0	325C122050	PEAKING COIL	100μH-K
L 2C1	325C167010	PEAKING COIL	47μH-J
L 2C2	325C166090	PEAKING COIL	33μH-J
L 2C3	325C122050	PEAKING COIL	100μH-K
L 2P1	325C166090	PEAKING COIL	33μH-J
L 2P5	325C166090	PEAKING COIL	33μH-J
L 2P6	325C167010	PEAKING COIL	47μH-J
L 2Z0	325C167000	PEAKING COIL	39μH-J
L 3A0	325C262050	PEAKING COIL	100μH-K
L 3A1	325C122050	PEAKING COIL	100μH-K
L 3001	325C262050	PEAKING COIL	100μH-K
L 3002	325C262050	PEAKING COIL	100μH-K
L 3301	321C114080	RF COIL	8200μH-J
L 3305	321C113070	RF COIL	1000μH-K
L 3315	325C262050	PEAKING COIL	100μH-K
L 3318	325C262080	PEAKING COIL	180μH-K SO
L 3319	325C262050	PEAKING COIL	100μH-K
L 4A0	325C262000	PEAKING COIL	39μH-K
L 501	325C122050	PEAKING COIL	100μH-K
L 502	325C166050	PEAKING COIL	15μH-J
L 503	325C262050	PEAKING COIL	100μH-K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
L 507	325C266080	PEAKING COIL	27μH-J
L 570	299P124010	LATCH MAGNET	
L 5A0	325C262050	PEAKING COIL	100μH-K
L 5A1	325C124080	PEAKING COIL	0.56μH-M, K
L 5A2	325C124050	PEAKING COIL	0.33μH-M, K
L 5A3	325C124050	PEAKING COIL	0.33μH-M, K
L 5A5	325C167040	PEAKING COIL	82μH-J

TRANSFORMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
T 3301	409P423030	AUDIO BIAS OSC	705720044D
T 901	350P577010	POWER	PRI 220V

VARIABLE RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
VR101	127C080090	VR-SEMIFIXED	1/5W B20kΩ-M
VR103	127C090070	VR-SEMIFIXED	1/5W B5kΩ-M
VR202	127C290040	VR-SEMIFIXED	1/10W B1kΩ-N
VR203	127C290080	VR-SEMIFIXED	1/10W B10kΩ-N
VR280	120C380080	VR-PCB	1/20W B3kΩ-20TM CS
VR2A0	127C380090	VR-SEMIFIXED	1/5W B20kΩ-M
VR2A1	127C390090	VR-SEMIFIXED	1/5W B20kΩ-M
VR2A2	127C380080	VR-SEMIFIXED	1/5W B10kΩ-M
VR2A3	127C380050	VR-SEMIFIXED	1/5W B2kΩ-M
VR2A5	127C380090	VR-SEMIFIXED	1/5W B20kΩ-M
VR3000	127C381000	VR-SEMIFIXED	1/5W B30kΩ-M
VR3001	127C381000	VR-SEMIFIXED	1/5W B30kΩ-M
VR3002	127C390080	VR-SEMIFIXED	1/5W B10kΩ-M
VR3003	127C390070	VR-SEMIFIXED	1/5W B5kΩ-M
VR3004	127C390040	VR-SEMIFIXED	1/5W B1kΩ-M
VR3311	127C181020	VR-SEMIFIXED	1/5W B100kΩ-M
VR4A0	127C381020	VR-SEMIFIXED	1/5W B100kΩ-M

RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 01	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 03	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 09	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 11	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 12	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 13	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 14	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 18	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 19	103P475060	CHIP RESISTOR	1/10W 20kΩ-F
R 101	103P473040	CHIP RESISTOR	1/10W 2.4kΩ-F
R 103	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 104	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 108	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 109	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 113	103P471030	CHIP RESISTOR	1/10W 330Ω-F
R 115	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 116	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 117	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 118	103P409050	CHIP RESISTOR	1/10W 0Ω
R 120	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 121	103P472090	CHIP RESISTOR	1/10W 1.5K
R 122	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 123	103P471050	CHIP RESISTOR	1/10W 390Ω-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 126	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 127	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 128	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 129	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 153	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 160	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 171	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 172	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 173	103P405090	CHIP RESISTOR	1/10W 680kΩ-J
R 174	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 175	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 176	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 177	103P405020	CHIP RESISTOR	1/10W 180kΩ-J
R 178	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 179	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 181	103P471050	CHIP RESISTOR	1/10W 390Ω-F
R 1A1	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A4	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A7	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1A8	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1J1	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1J2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1J3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1J5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1M0	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1N5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1N7	103P409050	CHIP RESISTOR	1/10W 0Ω
R 1N8	103P409050	CHIP RESISTOR	1/10W 0Ω
R 201	103P409050	CHIP RESISTOR	1/10W 0Ω
R 203	103P409050	CHIP RESISTOR	1/10W 0Ω
R 206	103P402060	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 1.2kΩ-J
R 206	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 207	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 208	103P402000	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 390Ω-J
R 208	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 209	103P401030	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 100Ω-J
R 209	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 210	103P401020	CHIP RESISTOR	1/10W 82Ω-J
R 212	103P402010	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 470Ω-J
R 212	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 213	103P409050	CHIP RESISTOR	1/10W 0Ω
R 214	103P401030	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 100Ω-J
R 214	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 216	103P401080	CHIP RESISTOR	1/10W 270Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 217	103P401080	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 270Ω-J
R 217	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 218	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 219	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 220	103P409050	CHIP RESISTOR	1/10W 0Ω
R 224	103P409050	CHIP RESISTOR	1/10W 0Ω
R 230	103P409050	CHIP RESISTOR	1/10W 0Ω
R 234	103P409050	CHIP RESISTOR	1/10W 0Ω
R 238	103P409050	CHIP RESISTOR	1/10W 0Ω
R 240	103P409050	CHIP RESISTOR	1/10W 0Ω
R 242	103P403070	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 10kΩ-J
R 242	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 243	103P402060	CHIP RESISTOR (HEAD-AMP PCB)	1/10W 1.2kΩ-J
R 243	103P409050	CHIP RESISTOR (SIGNAL PCB)	1/10W 0Ω
R 244	103P409050	CHIP RESISTOR	1/10W 0Ω
R 245	103P409050	CHIP RESISTOR	1/10W 0Ω
R 246	103P409050	CHIP RESISTOR	1/10W 0Ω
R 247	103P409050	CHIP RESISTOR	1/10W 0Ω
R 248	103P409050	CHIP RESISTOR	1/10W 0Ω
R 249	103P409050	CHIP RESISTOR	1/10W 0Ω
R 250	103P409050	CHIP RESISTOR	1/10W 0Ω
R 251	103P409050	CHIP RESISTOR	1/10W 0Ω
R 252	103P409050	CHIP RESISTOR	1/10W 0Ω
R 285	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 286	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 287	103P471030	CHIP RESISTOR	1/10W 330Ω-F
R 288	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 291	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 299	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2A1	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 2A2	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 2A3	103P475020	CHIP RESISTOR	1/10W 13kΩ-F
R 2A4	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2A5	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2A6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2D2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2D3	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 2D4	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2D5	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2D6	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2D7	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2E1	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2E2	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2E3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2E5	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2E6	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 2E7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2E8	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 2E9	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2F0	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 2F1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2F2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2F3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2F4	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2F5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2F6	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2F7	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2F8	103P473080	CHIP RESISTOR	1/10W 3.6kΩ-F
R 2G0	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2G1	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 2G2	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2G3	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2G4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2G7	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2G8	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 2G9	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 2H1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2H2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2H4	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2J2	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2J3	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2J4	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2J5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2J6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2J7	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2J8	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 2J9	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2K1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2P1	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 2P2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2P3	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 2P4	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2P5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2P6	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2P7	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2R1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2R2	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 2R4	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2R5	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2R6	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2S1	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2S5	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2S6	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2T1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2T4	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2T6	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2T7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3A0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3A3	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 3A4	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 3A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3A6	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 3A7	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3A8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3A9	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3B0	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B2	103P474060	CHIP RESISTOR	1/10W 7.5kΩ-F
R 3B3	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B4	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 3B6	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 3B7	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 4A1	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4A2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4A3	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 4A4	103P474030	CHIP RESISTOR	1/10W 5.6kΩ-F
R 4A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4A9	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4B0	103P473020	CHIP RESISTOR	1/10W 2kΩ-F
R 4B1	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 4B3	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 4B4	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 4B5	103P479030	CHIP METAL	1/10W 680kΩ-F
R 4B6	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 4B7	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 4B8	103P476010	CHIP RESISTOR	1/10W 33kΩ-F
R 4B9	103P477070	CHIP RESISTOR	1/10W 150K
R 4C0	103P478010	CHIP RESISTOR	1/10W 220kΩ-F
R 4C2	103P478050	CHIP RESISTOR	1/10W 330kΩ-F
R 4C3	103P475050	CHIP RESISTOR	1/10W 18kΩ-F
R 4C5	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 4C9	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 4D0	103P478020	CHIP RESISTOR	1/10W 240kΩ-F
R 4D1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 4D2	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4D3	103P473010	CHIP RESISTOR	1/10W 1.8kΩ-F
R 4D4	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 4D5	103P477010	CHIP RESISTOR	1/10W 82kΩ-F
R 4D6	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 4D9	103P474070	CHIP RESISTOR	1/10W 8.2kΩ-F
R 4E0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4E2	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E3	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E5	103P473050	CHIP RESISTOR	1/10W 2.7kΩ-F
R 4E6	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4E7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4E8	103P473060	CHIP RESISTOR	1/10W 3kΩ-F
R 4E9	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4F0	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 4F2	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 4F3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4F4	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4G0	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4G1	103P473070	CHIP RESISTOR	1/10W 3.3KΩ-F
R 4G2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4G3	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4H0	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 4H1	103P475050	CHIP RESISTOR	1/10W 18kΩ-F
R 401	103P409050	CHIP RESISTOR	1/10W 0Ω

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 402	103P409050	CHIP RESISTOR	1/10W 0Ω
R 4R8	103P409050	CHIP RESISTOR	1/10W 0Ω
R 4R9	103P409050	CHIP RESISTOR	1/10W 0Ω
R 4S0	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 503	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 505	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 506	103P472060	CHIP RESISTOR	1/10W 1.1kΩ-F
R 508	103P409050	CHIP RESISTOR	1/10W 0Ω
R 509	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 510	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 511	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 512	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 513	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 523	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 527	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 528	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 530	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 532	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 534	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 535	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 536	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 538	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 539	103P473090	CHIP RESISTOR	1/10W 3.9kΩ-F
R 540	103P474030	CHIP RESISTOR	1/10W 5.6kΩ-F
R 545	103P409050	CHIP RESISTOR	1/10W 0Ω
R 547	103P409050	CHIP RESISTOR	1/10W 0Ω
R 548	103P409050	CHIP RESISTOR	1/10W 0Ω
R 549	103P409050	CHIP RESISTOR	1/10W 0Ω
R 550	103P409050	CHIP RESISTOR	1/10W 0Ω
R 551	103P409050	CHIP RESISTOR	1/10W 0Ω
R 552	103P409050	CHIP RESISTOR	1/10W 0Ω
R 553	103P409050	CHIP RESISTOR	1/10W 0Ω
R 554	103P409050	CHIP RESISTOR	1/10W 0Ω
R 555	103P409050	CHIP RESISTOR	1/10W 0Ω
R 556	103P409050	CHIP RESISTOR	1/10W 0Ω
R 558	103P409050	CHIP RESISTOR	1/10W 0Ω
R 559	103P409050	CHIP RESISTOR	1/10W 0Ω
R 560	103P409050	CHIP RESISTOR	1/10W 0Ω
R 561	103P409050	CHIP RESISTOR	1/10W 0Ω
R 562	103P409050	CHIP RESISTOR	1/10W 0Ω
R 565	103P409050	CHIP RESISTOR	1/10W 0Ω
R 566	103P409050	CHIP RESISTOR	1/10W 0Ω
R 567	103P409050	CHIP RESISTOR	1/10W 0Ω
R 570	103P409050	CHIP RESISTOR	1/10W 0Ω
R 571	103P409050	CHIP RESISTOR	1/10W 0Ω
R 572	103P409050	CHIP RESISTOR	1/10W 0Ω
R 573	103P409050	CHIP RESISTOR	1/10W 0Ω
R 574	103P409050	CHIP RESISTOR	1/10W 0Ω
R 575	103P409050	CHIP RESISTOR	1/10W 0Ω
R 577	103P409050	CHIP RESISTOR	1/10W 0Ω
R 578	103P409050	CHIP RESISTOR	1/10W 0Ω
R 579	103P409050	CHIP RESISTOR	1/10W 0Ω
R 580	103P409050	CHIP RESISTOR	1/10W 0Ω
R 581	103P409050	CHIP RESISTOR	1/10W 0Ω
R 582	103P409050	CHIP RESISTOR	1/10W 0Ω

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 583	103P409050	CHIP RESISTOR	1/10W 0Ω
R 588	103P409050	CHIP RESISTOR	1/10W 0Ω
R 597	103P409050	CHIP RESISTOR	1/10W 0Ω
R 599	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5A2	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5A4	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 5A5	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 5A6	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 5A7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5A8	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 5A9	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5B0	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5B1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B4	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 5B6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B8	103P406050	CHIP RESISTOR	1/10W 2.2MΩ-J
R 5B9	103P406050	CHIP RESISTOR	1/10W 2.2MΩ-J
R 5C4	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5C5	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5C6	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5C7	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 5C8	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D0	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5D1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D2	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 5D3	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5D9	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5E1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5E2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 5E3	103P474070	CHIP RESISTOR	1/10W 8.2kΩ-F
R 5E4	103P401020	CHIP RESISTOR	1/10W 82Ω-J
R 5E5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5E6	103P471010	CHIP RESISTOR	1/10W 270Ω-F
R 5E7	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 5E8	103P472090	CHIP RESISTOR	1/10W 1.5K
R 5E9	103P471050	CHIP RESISTOR	1/10W 390Ω-F
R 5F0	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5F1	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5F2	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 5F4	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5F5	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5F6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5F7	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 5F8	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 5F9	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5G1	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 5G2	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 5G3	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5G4	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5G5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5G6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5H0	103P473060	CHIP RESISTOR	1/10W 3kΩ-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5H1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H2	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 5H3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5H4	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 5H5	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
R 5H6	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H8	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H9	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 5J0	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 5J2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5J4	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 5J7	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 5J9	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5K1	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5L4	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L5	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5L6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L7	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 5L8	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5M2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5M3	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5M4	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5M5	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5M7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5N0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5N2	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5N3	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5P0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5P2	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
R 5P3	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5P4	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 5S0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5S1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5U0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5U2	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5U4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 901	109D036040	COMPOSITION	1/2W 8.2MΩ-K
R 902	109P052050	FUSE	1/4W 6.8Ω-J
R 905	109P052010	FUSE	1/4W 100Ω-J
RJ 1	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 2	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 3	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 5	103P409050	CHIP RESISTOR	1/10W 0Ω

CAPACITORS AND TRIMMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 01	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 101	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 102	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 103	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 108	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 109	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 115	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 119	154P324000	CHIP CAPACITOR	SL50V 150pF-J
C 121	154P330080	CHIP CAPACITOR	CH50V 7pF-C

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 171	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 173	141P137080	CHIP CAPACITOR	B25V 0.047M
C 175	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 176	154P325080	CHIP CAPACITOR	SL50V 820pF
C 181	154P322000	CHIP CAPACITOR	SL50V 22pF-J
C 182	154P321060	CHIP CAPACITOR	SL50V 15pF-J
C 183	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 201	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 202	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 207	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 209	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 210	141P137080	CHIP CAPACITOR	B25V 0.047M
C 211	141P137080	CHIP CAPACITOR	B25V 0.047M
C 216	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 220	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 221	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 234	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 236	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 249	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 255	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 256	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 290	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 299	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2C1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2C2	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2C3	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2C4	154P325020	CHIP CAPACITOR	SL50V 470pF
C 2C5	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2C8	154P324000	CHIP CAPACITOR	SL50V 150pF-J
C 2C9	154P324000	CHIP CAPACITOR	SL50V 150pF-J
C 2D1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2D2	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2D4	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 2D7	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2E0	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 2E1	154P322000	CHIP CAPACITOR	SL50V 22pF-J
C 2E3	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2E4	141P137040	CHIP CAPACITOR	B25V 0.022M
C 2F4	141P137080	CHIP CAPACITOR	B25V 0.047M
C 2F7	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2G5	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2G7	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2H0	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 2H1	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 2H2	154P320080	CHIP CAPACITOR	SL50V 6pF-C
C 2H3	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 2H7	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2P2	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2P3	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2P8	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2R0	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 2R1	154P322000	CHIP CAPACITOR	SL50V 22pF-J
C 2R2	141P137040	CHIP CAPACITOR	B25V 0.022M
C 2R3	141P137080	CHIP CAPACITOR	B25V 0.047M
C 2R4	154P323060	CHIP CAPACITOR	SL50V 100pF-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 2R5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2R7	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2X0	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2Z0	154P321080	CHIP CAPACITOR	SL50V 18pF-J
C 3A1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A9	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3B2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3B3	154P325020	CHIP CAPACITOR	SL50V 470pF
C 3B4	154P325020	CHIP CAPACITOR	SL50V 470pF
C 4A0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4B3	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 4B4	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 4B6	141P131010	CHIP CAPACITOR	B50V 1500pF
C 4C4	141P130060	CHIP CAPACITOR	B50V 560pF-K
C 4D5	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 4D8	141P131050	CHIP CAPACITOR	B50V 3300pF-K
C 4D9	141P131010	CHIP CAPACITOR	B50V 1500pF
C 4E0	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 501	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 502	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 505	154P332010	CHIP CAPACITOR	CH50V 27pF-J
C 507	154P332010	CHIP CAPACITOR	CH50V 27pF-J
C 510	141P137080	CHIP CAPACITOR	B25V 0.047M
C 512	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 514	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 524	141P131010	CHIP CAPACITOR	B50V 1500pF
C 525	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 528	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 529	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 5A0	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 5A1	141P131030	CHIP CAPACITOR	B50V 2200pF-K
C 5A3	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5A4	154P324060	CHIP CAPACITOR	SL50V 270pF-J
C 5A5	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 5A7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5B0	154P332030	CHIP CAPACITOR	CH50V 33pF-J
C 5B7	189P197020	C-ELE-DBL-LAYER	AC310G473Z5R5
C 5E0	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5E1	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5F0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5F1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5F8	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5F9	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5H1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 905	185D065050	ELECTROLYTIC-C	H25V 3300μF-M 105C
C 906	185D063040	ELECTROLYTIC-C	H25V 4700μF-M 105C
VC8A0	202P109020	TRIMMER CAPACITOR	4.2pF-20pF

SWITCHES

S 704	431C099050	SLIDE SWITCH	IP
S 707	431C099020	SLIDE SWITCH	MIX

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
S 8A3	432P089040	KEY BOARD SWITCH	S-OTR
S 8A4	432P089040	KEY BOARD SWITCH	PB
S 8A5	432P089040	KEY BOARD SWITCH	RENT IP
S 8A6	432P089040	KEY BOARD SWITCH	POWER
S 8B4	432P089040	KEY BOARD SWITCH	REC
S 8B5	432P089040	KEY BOARD SWITCH	STOP
S 8B6	432P089040	KEY BOARD SWITCH	EJECT
S 8C5	432P089020	KEY BOARD SWITCH	STILL/PAUSE
S 8D3	432P089040	KEY BOARD SWITCH	ONE. KEY. PROGRAM
S 8D5	432P089040	KEY BOARD SWITCH	OTR
S 8D6	432P089040	KEY BOARD SWITCH	AFR
S 8J0	439P023030	SWITCH	SRGPHJ065A
S 8R0	432P089040	KEY BOARD SWITCH	RESET
SW570	439P019020	MODE SELECT SWITCH	(F)
SW571	439P020010	LIMIT SWITCH	SPPB-62

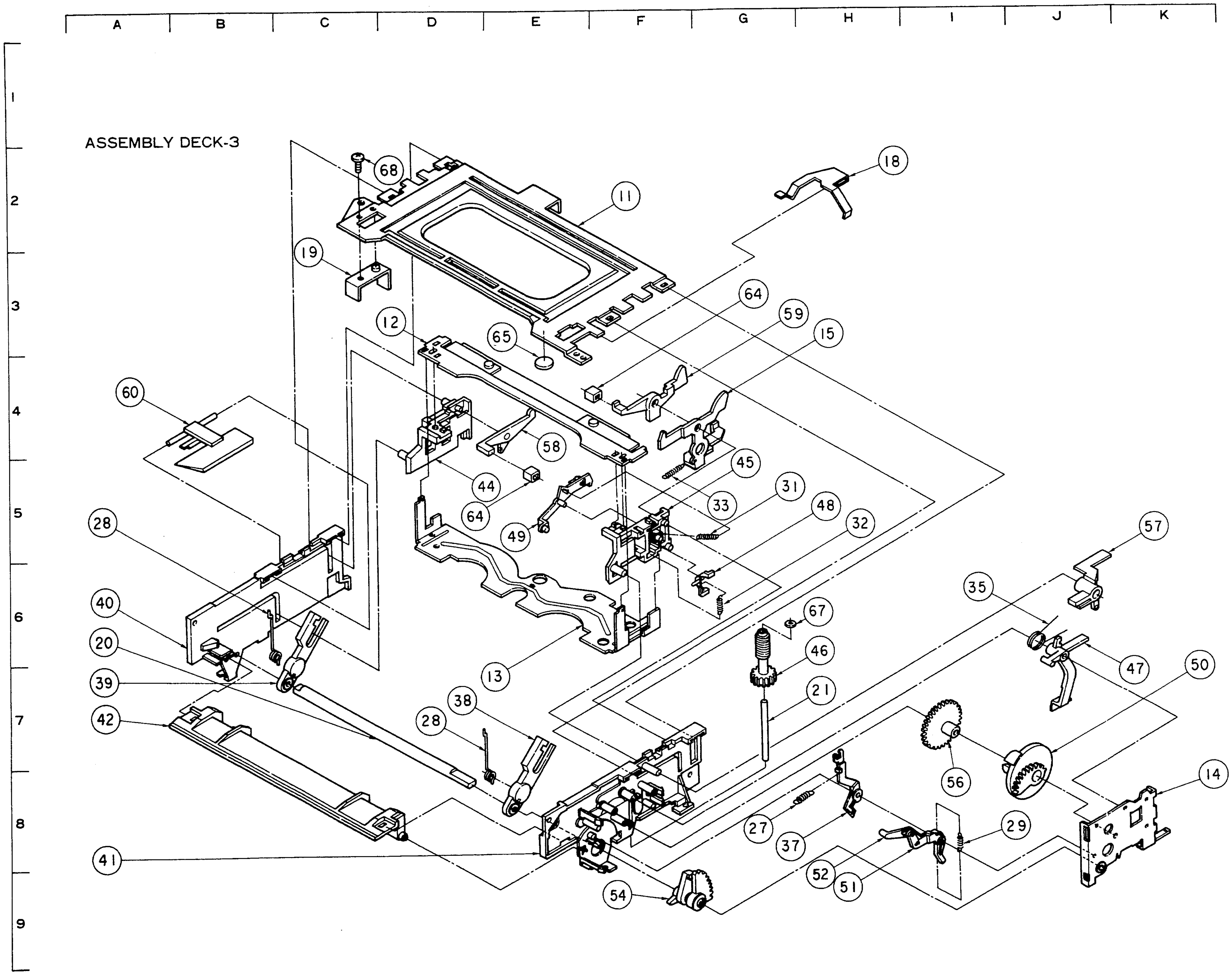
MISCELLANEOUS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CU 01	295P407020	RF CONVERTER	
DC CC	243C061020	CARD LEAD	9P L=150(DC-CC)
DM CM	243C061090	CARD LEAD	17P L150(DM-CM)
F 901	283D046080	FUSE	T630MA
F 902	283D047050	FUSE	T2. 5A
F 903	283D047050	FUSE	T2. 5A
HR MR	243C061020	CARD LEAD	9P L=150(DC-CC)
HV MV	243C061020	CARD LEAD	9P L=150(DC-CC)
J 2001	451C058020	CONNECTOR	21P
J 2002	451C058020	CONNECTOR	21P
J 2003	451C086090	PIN JACK	WHITE
J 2004	451C086010	PIN JACK	RED
J 701	451C104010	HEADPHONE JACK	BLACK
J 703	440C267010	PIN JACK BOARD	
K 3301	287P020050	RELAY	MZ9HS-B
M 470	288P118010	CAPSTAN MOTOR	DC12V 4. 2W
M 570	288P088040	DRUM MOTOR	DC12V 3. 3W
M 571	288D025010	LOADING MOTOR	
MK TK	243C066010	CARD LEAD	25P L250(CQ-MQ)
P 5S0	286P010010	BUZZER	PKM22EPT-2001
PX MX	243C073010	CARD LEAD	9P L=130(MX-PX)
T 370	460P060050	A/C HEAD	
T 371	460P061020	FULL ERASE HEAD	460P06102
TF MF	243C022020	CARD LEAD	9P L=248(MF-TF)
TT HT	243C072030	CARD LEAD	11P L120(S8-C8)
TU 01	295P297010	TUNER	TERE1-0J9A
V 8A0	253P101010	TUBE FLUOR	FIP11AMW10
X 2A0	285P083010	CRYSTAL RESONATOR	4. 43362MHz
X 501	285P084010	CRYSTAL RESONATOR	17. 7345MHz
X 8A0	285P063040	CRYSTAL RESONATOR	4. 19430MHz
X 8A1	285P054010	CRYSTAL RESONATOR	32. 768kHz
Z 8A0	939P529010	PREAMP UNIT	GP1U783R

PRINTED CIRCUIT BOARD ASSY'S

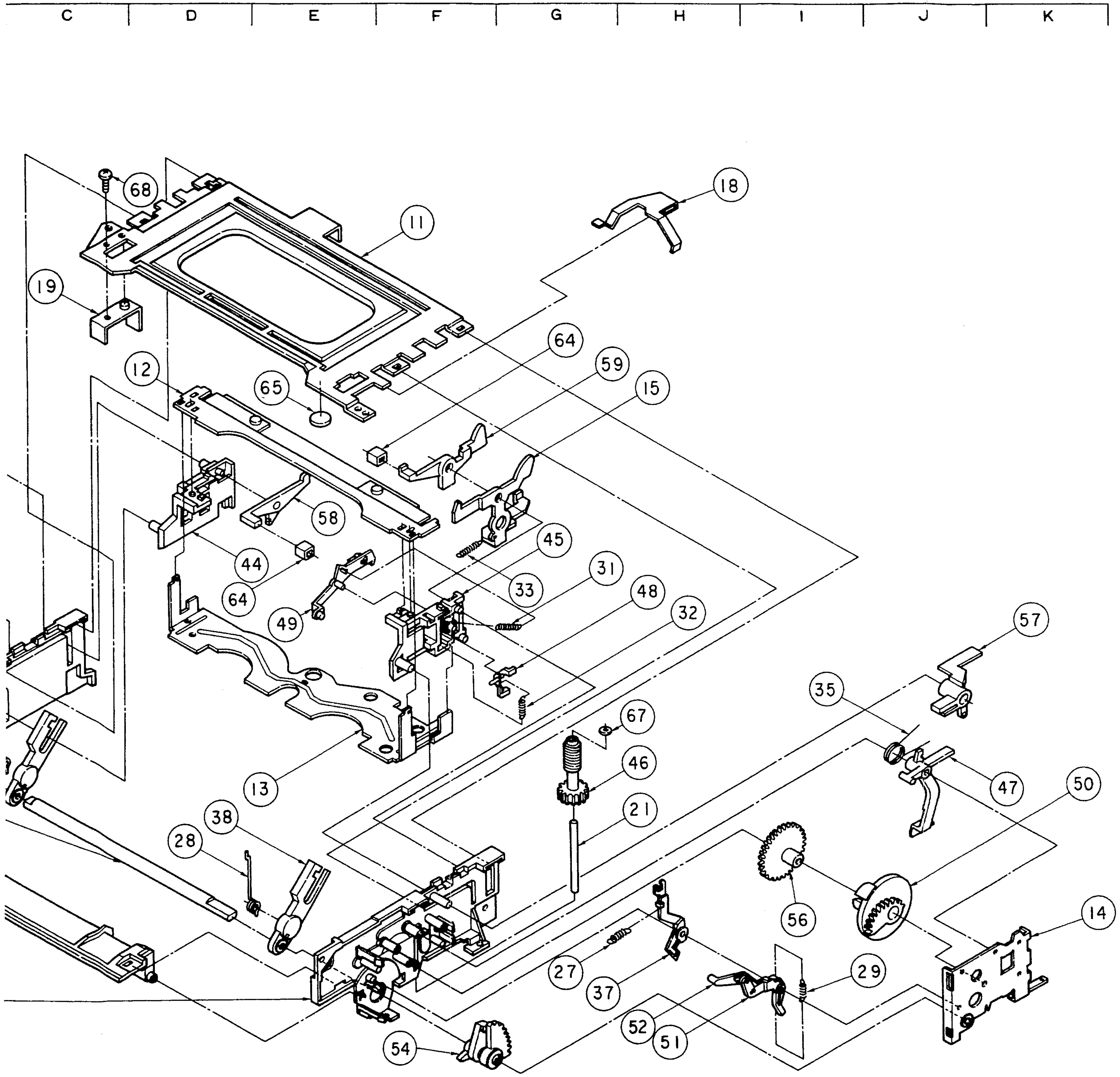
SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
	928D136001	CG PCB ASSY	
	928D133001	CONNECTOR PCB ASSY	
	928C595001	DECK PCB ASSY	
	927B441001	HEAD-AMP PCB ASSY	
	927B704008	HIFI/DEC PCB ASSY	
	928D130008	MAIN PCB ASSY	
	928D107008	OPE PCB ASSY	
	928D131001	POWER PCB ASSY	
	928D132001	POWER SUB PCB ASSY	
	928D106008	TIMER PCB ASSY	
	927B686012	TUNER PCB ASSY	

ASSEMBLY DECK-3


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
68
11
18
19
12
65
64
59
15
60
58
44
45
64
33
31
48
32
49
28
57
40
67
35
20
46
13
47
50
39
21
42
38
28
56
14
27
37
29
52
51
41
54

* Settelled Service

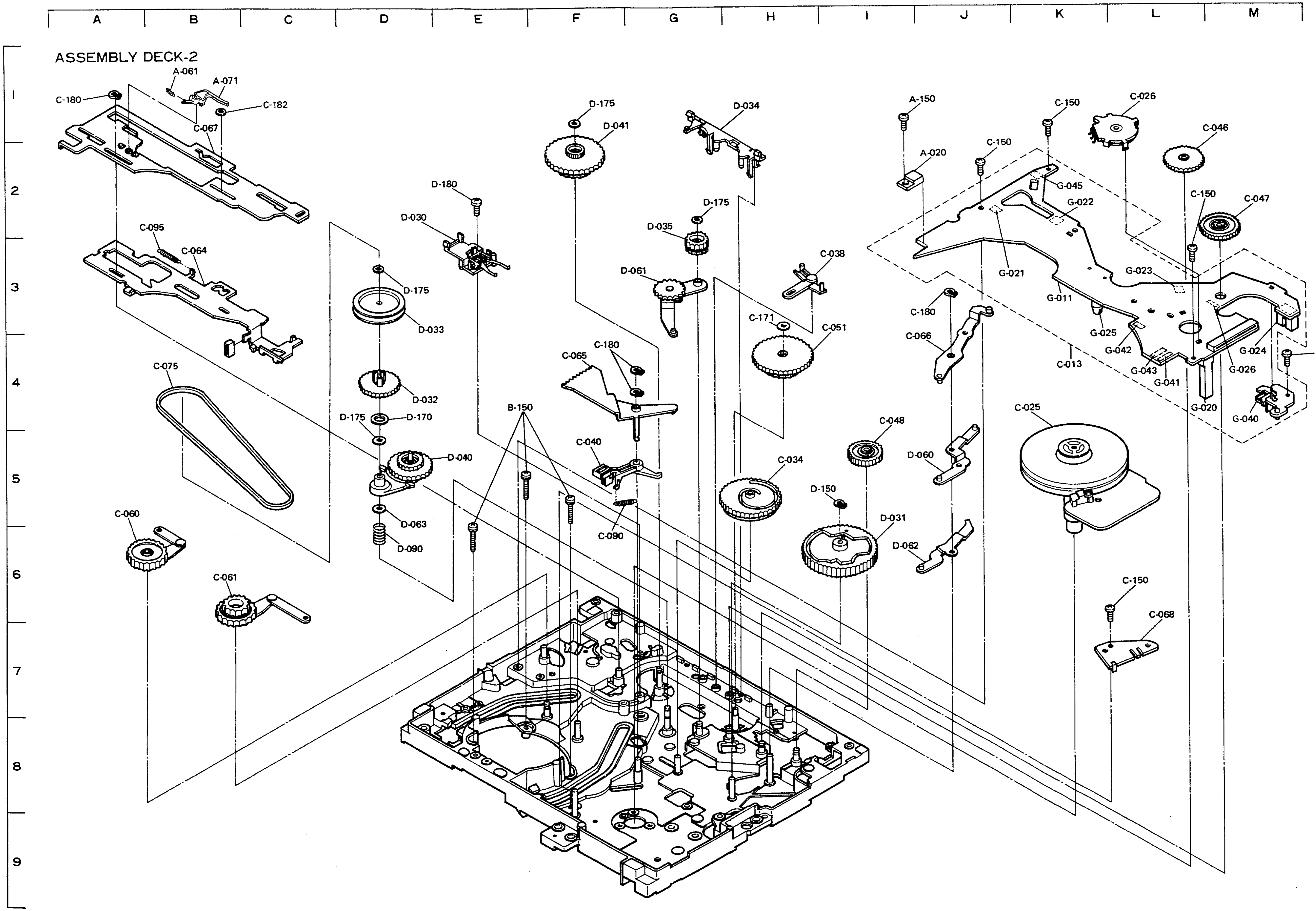
ITEM	PARTS No.	*
11	591B545010	
12	592C758010	
13	591B546010	
14	591B542010	
15	592C851010	
18	596D150010	
19	596D217010	
20	631D134010	
21	631D135010	
27	(not used)	
28	572D301010	○
29	572D389010	
31	572D304010	
32	572D305010	
33	572D380010	
35	572D367010	
37	(not used)	
38	641B315010	○
39	641B315020	○
40	641A110010	
41	641A109010	
42	641B306010	
44	641B309010	
45	641B307010	
46	621D513010	○
47	621D514010	
48	621D515010	○
49	641C794010	
50	641C793010	○
51	641C897010	○
52	641C898010	○
54	641C858010	○
56	641C814010	○
57	641C857010	
58	621D585010	
59	621D586010	
60	641C878010	
64	642D494010	
65	(not used)	
67	552C001040	○
68	--------	

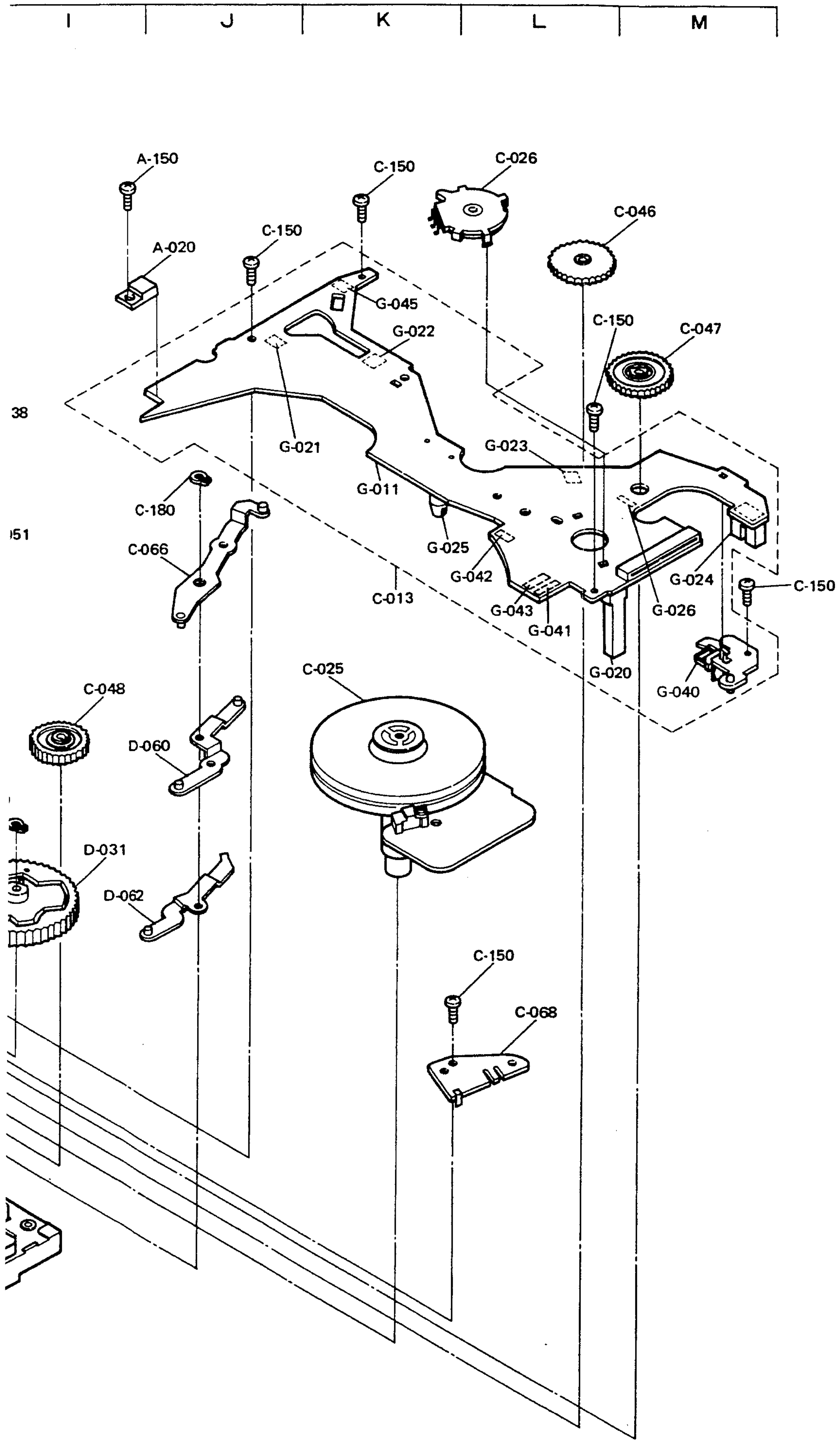


* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
11	591B545010		F-2		PLATE-ROOF		01
12	592C758010		D-3		PLATE-UPPER		01
13	591B546010		E-7		PLATE-BOTTOM		01
14	591B542010		K-8		PLATE-SIDE-TU		01
15	592C851010		H-3		LEVER-LOCK-FL		01
18	596D150010		H-2		PLATE-EARTH		01
19	596D217010		C-3		PLATE-GUARD		01
20	631D134010		A-6		SHAFT-FL		01
21	631D135010		H-7		SHAFT-WORM		01
27	(not used)		G-8				
28	572D301010	○	A-5	D-7	SPRING-FL		02
29	572D389010		J-8		SPRING-DOOR-SUB		01
31	572D304010		G-5		SPRING-OPENER-LID		01
32	572D305010		H-5		SPRING-JUT-FL		01
33	572D380010		G-5		SPRING-LEVER-LOCK		01
35	572D367010		I-6		SPRING-LEVER-SW		01
37	(not used)		G-8				
38	641B315010	○	D-7		ARM-FL		01
39	641B315020	○	A-7		ARM-FL		01
40	641A110010		A-6		HOLDER-SIDE-SP		01
41	641A109010		A-8		HOLDER-SIDE-TU		01
42	641B306010		A-7		GUIDE-INSERT		01
44	641B309010		D-5		HOUSING-CASSETTE-SP		01
45	641B307010		G-5		HOUSING-CASSETTE-TU		01
46	621D513010	○	H-6		GEAR-WORM-FL		01
47	621D514010		K-7		LEVER-SW-FL		01
48	621D515010	○	H-5		JUT		01
49	641C794010		E-5		OPENER-LID-CAS		01
50	641C793010	○	K-7		GEAR-DRIVE		01
51	641C897010	○	H-9		ARM-FL-DOOR-A		01
52	641C898010	○	H-9		ARM-FL-DOOR-B		01
54	641C858010	○	F-9		ARM-LOCK		01
56	641C814010	○	I-8		GEAR-W-H-F/L		01
57	641C857010		K-5		LEVER-PICK-CAS		01
58	621D585010		E-4		LEVER-CAS-SP		01
59	621D586010		G-3		LEVER-CAS-TU		01
60	641C878010		A-4		STOPPER-SP-FL		01
64	642D494010		D-5	G-3	RUBBER-FL		02
65	(not used)		E-3				
67	552C001040	○	H-6		WASHER-THRUST	3 T0.25	01
68	--------		D-2		SCREW	2.6-5	01

ASSEMBLY DECK-2


A
B
C
D
E
F
G
H
I
J
K
L
M
1
2
3
4
5
6
7
8
9
A-061
A-071
C-180
C-182
C-067
C-095
C-064
C-075
C-060
C-061
D-175
D-033
D-032
D-175
D-170
D-040
D-063
D-090
D-180
D-030
B-150
D-175
D-041
D-034
D-175
D-035
D-061
C-065
C-180
C-040
C-090
C-038
C-171
C-051
C-034
D-150
D-031
C-048
A-150
A-020
C-150
C-180
C-066
D-060
D-062
C-150
C-026
C-046
C-150
C-047
G-045
G-022
G-021
G-023
G-011
G-025
G-042
C-013
G-043
G-041
G-024
G-026
G-020
C-150
G-040
C-025
C-150
C-068



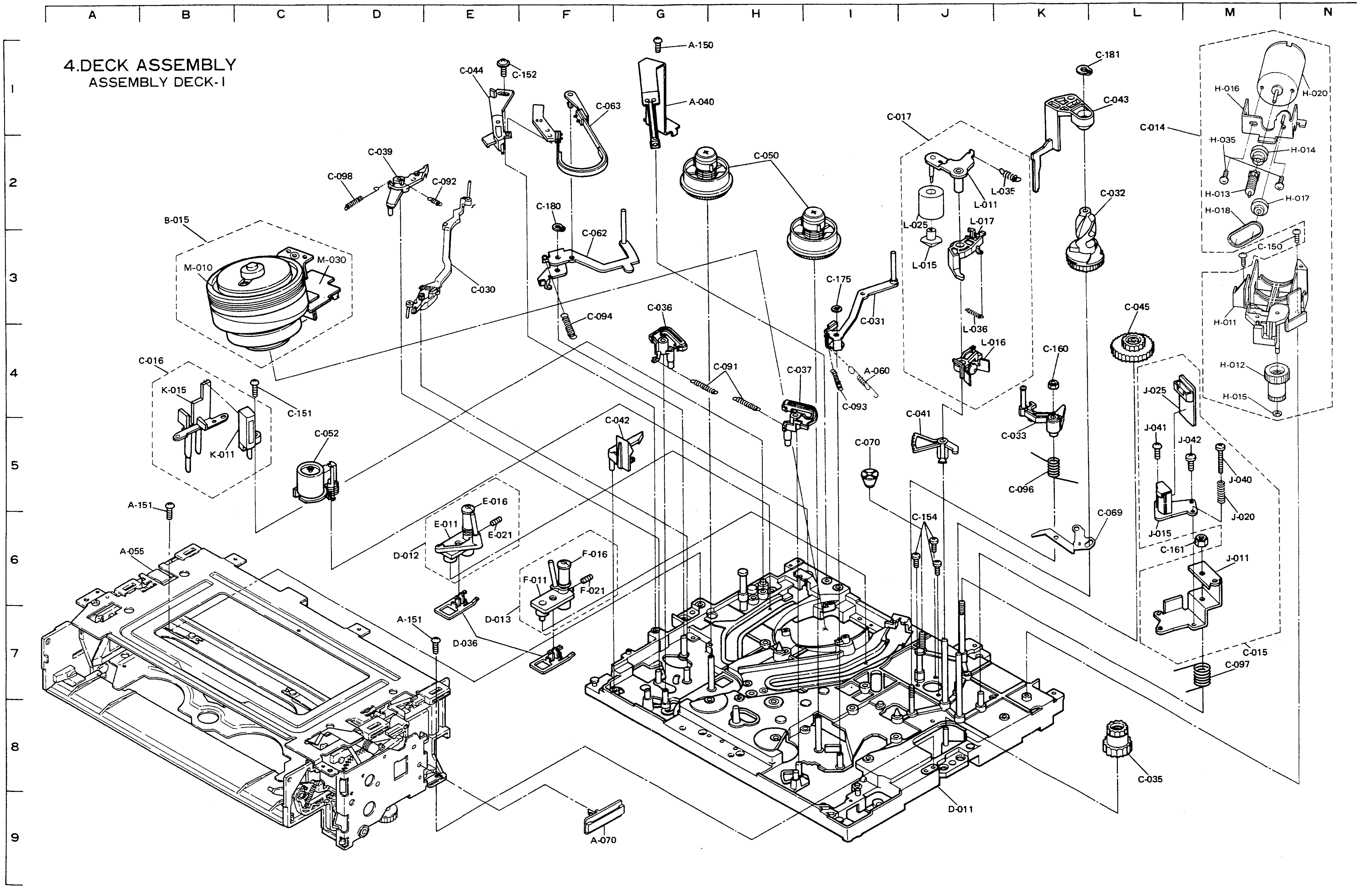
∗ Settelled Service Parts

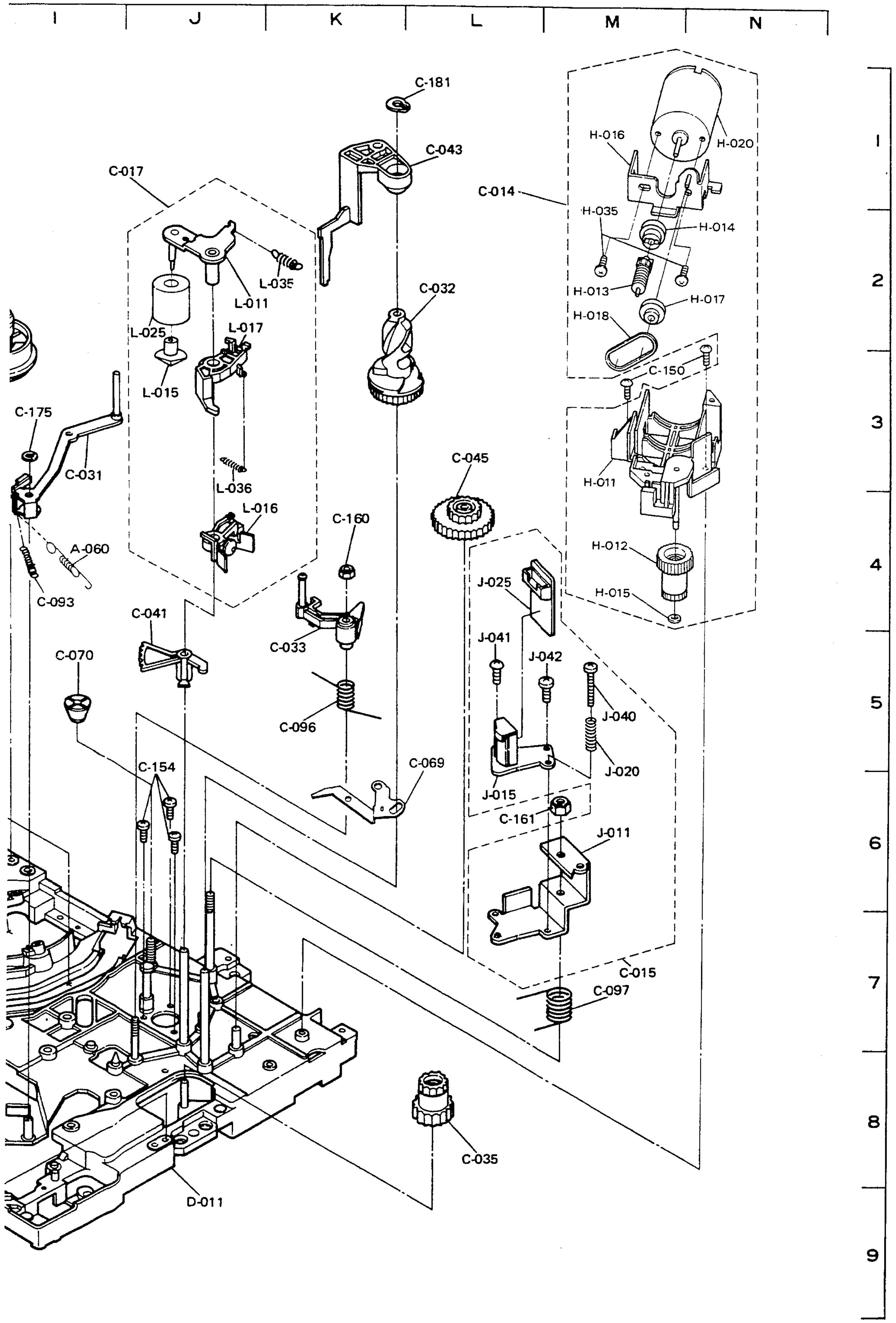
ITEM	PARTS No.	∗	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
B-150	669D200040		E-4		SCREW-SEMS	M2.6×0.45-10	03
D-030	641B310010	○	E-2		UNIT-LEVER-SHIFT		01
D-031	641B323010	○	I-5		CAM-MAIN-1		01
D-032	641C789020	○	D-4		PULLEY-GEAR		01
D-033	641C790010	○	D-3		PULLEY-BELT		01
D-034	641C815010		H-1		HOLDER-P-CAM		01
D-035	621D516010	○	G-2		GEAR-F/L-1		01
D-040	522C077020	○	E-5		UNIT-GEAR-IDLER		01
D-041	522C083010	○	F-1		UNIT-GEAR-REEL-S		01
D-060	591B559010		I-5		LEVER-C		01
D-061	591B567010	○	G-3		LEVER-F/L-ID		01
D-062	592C830010		I-6		LEVER-RS		01
D-063	596D057010	○	D-5		WASHER-R	T=0.3	01
D-090	572D306010	○	D-6		SPRING-SHIFT		01
D-150	685C009010	○	H-5		GRIP-RING		01
D-170	552C010040	○	D-4		WASHER-THRUST	6.7×12×0.13	01
D-175	552C007030	○	D-3 G-2	D-4 F-1	CUT-WASHER	2.5	04
D-180	669D227010	○	E-2		SCREW-TS	M2.6×6	01
C-013	928C595001	○	K-4		ASSY-PWB-DECK		01
G-011	240A750010		K-3		PWB-DECK		01
G-020	268P014020	○	L-4		TRANSISTOR	Q571 PN205L-(NC)	01
G-021	268P014020	○	J-3		TRANSISTOR	Q572 PN205L-(NC)	01
G-022	268P044010	○	K-2		PHOTO-INTERRUPTER	Q573 ON2270-R	01
G-023	268P044010	○	L-3		PHOTO-INTERRUPTER	Q574 ON2270-R	01
G-024	268P045010	○	M-4		PHOTO-INTERRUPTER	Q575 GP1L52	01
G-025	264P307020	○	K-4		DIODE-LE	D570 GL-451	01
G-026	264P515010	○	M-4		DIODE	D571 MA165	01
G-040	299P124010	○	M-4		LATCH-MAGNET	L570	01
G-041	260P455010	○	L-4		TRANSISTOR	Q581 DTC124EF	01
G-042	260P455010	○	L-4		TRANSISTOR	Q582 DTC124EF	01
G-043	260P455010	○	L-4		TRANSISTOR	Q583 DTC124EF	01
G-045	439P020010	○	K-2		SW-LIMIT	SW571	01
C-025	288P118010	○	K-4		MOTOR-CP	M470	01
C-026	439P019020	○	L-1		SW-MODE-SELECT-F	SW570	01
C-034	641B324010	○	H-5		CAM-MAIN-2		01
C-038	641C795010	○	I-3		LEVER-IDLER-S		01
C-040	641C800010	○	F-5		BRAKE-CP		01
C-046	621D517010	○	M-1		GEAR-F/L-2		01
C-047	621D518010	○	M-2		GEAR-F/L-3		01
C-048	621D519010	○	I-4		GEAR-F/L-4		01
C-051	522C078040	○	I-3		UNIT-GEAR-REEL		01
C-060	591B543010	○	A-5		ARM-LOAD-S		01
C-061	591B544010	○	B-6		ARM-LOAD-T		01
C-064	591B554010		B-3		PLATE-CAM-C		01
C-065	591B557010	○	F-4		ARM-GEAR-LOAD		01
C-066	591B558010		J-4		LEVER-B		01
C-067	592C949010		B-1		UNIT-PLATE-CAM-B3		01
C-068	596D186010		L-6		PLATE-SHIELD-F		01
C-075	521D062010	※	B-4		BELT-REEL		01
C-090	572D308020	○	F-6		SPRING-B-CP		01
C-095	572D313010	○	B-2		SPRING-CAM-C		01
C-150	669D227010	○	J-2 L-2 M-4	K-1 L-6	SCREW-TS	M2.6×6	05
C-171	552C006020	○	H-3		WASHER-THRUST	2.0×0.13	01
C-180	685C009010	○	A-1 J-3	F-4	GRIP-RING		04
C-182	552C009050	○	C-1		CUT-WASHER		01
A-020	260P630010	○	J-2		TRANSISTOR	Q971 2SD2012	01
A-061	572D404010	○	B-1		SPRING-B-RS		01
A-071	641C928010	○	B-1		LEVER-B-RS		01
A-150	669D227010	○	I-1		SCREW-TS	M2.6×6	01

※C－017 ASSY－ARM－PINCH and C－181 GRIP RING in ASSEMBLY DECK－1 and C－075 BELT－REEL in ASSEMBLY DECK－2 are referred to a Kit of consumed parts (789C007020).

4.DECK ASSEMBLY

ASSEMBLY DECK-I


A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
6
7
8
9
A-150
C-181
C-044
C-152
C-063
A-040
C-043
C-017
C-014
H-016
H-020
H-035
H-014
H-013
H-017
H-018
C-039
C-098
C-092
C-050
L-035
L-011
C-032
C-180
L-017
L-025
C-062
B-015
M-010
M-030
C-150
L-015
C-030
C-175
C-036
C-094
C-031
C-045
H-011
L-036
L-016
C-016
C-160
K-015
C-091
A-060
C-037
H-012
J-025
H-015
C-151
C-093
C-041
C-042
C-033
J-041
C-052
K-011
C-070
J-042
J-040
C-096
E-016
E-011
E-021
A-151
J-020
C-154
C-069
J-015
D-012
A-055
F-016
C-161
J-011
F-011
F-021
D-013
A-151
D-036
C-015
C-097
C-035
D-011
A-070



* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
B-015	948B274018	○	B-2		ASSY-DRUM		01
M-010	928B984015	○	B-3		ASSY-UPPER-DRUM		01
M-030	288P088040	○	C-3		MOTOR-DRUM	M570	01
D-011	948A071020		J-9		ASSY-MAIN-PLATE		01
D-012	948D018040	○	D-6		ASSY-TAPE-GUIDE-S		01
D-012	948D018050	○	D-6		ASSY-TAPE-GUIDE-S		01
D-012	948D018060	○	D-6		ASSY-TAPE-GUIDE-S		01
E-011	635B059010	○	E-6		TAPE-GUIDE-S		01
E-011	635B059020	○	E-6		TAPE-GUIDE-S		01
E-011	635B059030	○	E-6		TAPE-GUIDE-S		01
E-016	522D177010	○	E-5		GUIDE-ROLLER		01
E-021	669D197020		E-6		SET-SCREW-F	M3×0.5-4	01
D-013	948D019040	○	E-7		ASSY-TAPE-GUIDE-T		01
D-013	948D019050	○	E-7		ASSY-TAPE-GUIDE-T		01
D-013	948D019060	○	E-7		ASSY-TAPE-GUIDE-T		01
F-011	635B060010	○	F-6		TAPE-GUIDE-T		01
F-011	635B060020	○	F-6		TAPE-GUIDE-T		01
F-011	635B060030	○	F-6		TAPE-GUIDE-T		01
F-016	522D177010	○	F-6		GUIDE-ROLLER		01
F-021	669D197020		F-6		SET-SCREW-F	M3×0.5-4	01
D-036	621D522010	○	E-7		SLIDER		02
C-014	928D031010	○	N-5		ASSY-LOAD-MOTOR		01
H-011	641B313010		0-4		HOLDER-MOTOR		01
H-012	641C783010		N-4		GEAR-WHEEL		01
H-013	641C801010		N-2		GEAR-WORM		01
H-014	621D784010		0-2		CUPLING-2		01
H-015	552C007030	○	N-4		CUT-WASHER	2.5	01
H-016	593C059010		N-1		PLATE-HOLDER-M2		01
H-017	621D793010	○	0-2		PULLEY-L		01
H-018	521D074010	○	N-2		BELT-LM		01
H-020	288D025010	○	0-1		MOTOR-LOADING	M571	01
H-035	650P300030		N-2		SCREW-F-FE-PAN	M3×0.5-3	02
C-015	928D032030	○	M-7		ASSY-AC-HEAD		01
J-011	592C760010		M-6		ARM-AC		01
J-015	460P060050	○	L-6		HEAD-AC	T370	01
J-020	570D593010		M-6		SPRING-AC		01
J-025	215C393010		L-4		PWB-AC-AF		01
J-040	650P261040		M-5		SCREW-F-FE-PAN	M2.6×0.45-14	01
J-041	669D227010	○	L-5		SCREW-TS	M2.6×6	01
J-042	669D206030		L-5		SCREW		01
C-016	928D033010		B-4		ASSY-FE-HEAD		01
K-011	460P061020	○	B-5		HEAD-FE	T371	01
K-015	641C870010		B-4		HOLDER-FE		01
C-017	948D020010	※	I-1		ASSY-ARM-PINCH		01
L-011	591B536010		J-2		ARM-PINCH		01
L-015	621D523010	○	J-3		CAP-ROLLER		01
L-016	641C797010	○	J-4		LEVER-CAM-PINCH		01
L-017	641C798010	○	J-2		LEVER-ARM-PINCH		01
L-025	522D174010	○	J-2		ROLLER-PINCH		01
L-035	572D314010	○	K-2		SPRING-PINCH		01
L-036	572D315010	○	J-4		SPRING-CAM-PINCH		01
C-030	641B368010	○	E-3		ARM-TENS-REG-S2		01
C-031	591B551020	○	I-3		ARM-TENS-REG-T		01
C-032	641B314020	○	L-2		CAM-PINCH		01
C-033	635B068010	○	K-5		ARM-TU-G		01
C-035	641C782010	○	L-8		GEAR-JOINT		01
C-036	641B527020	○	G-3		BRAKE-MAIN-S2		01
C-037	641B526020	○	H-4		BRAKE-MAIN-T2		01

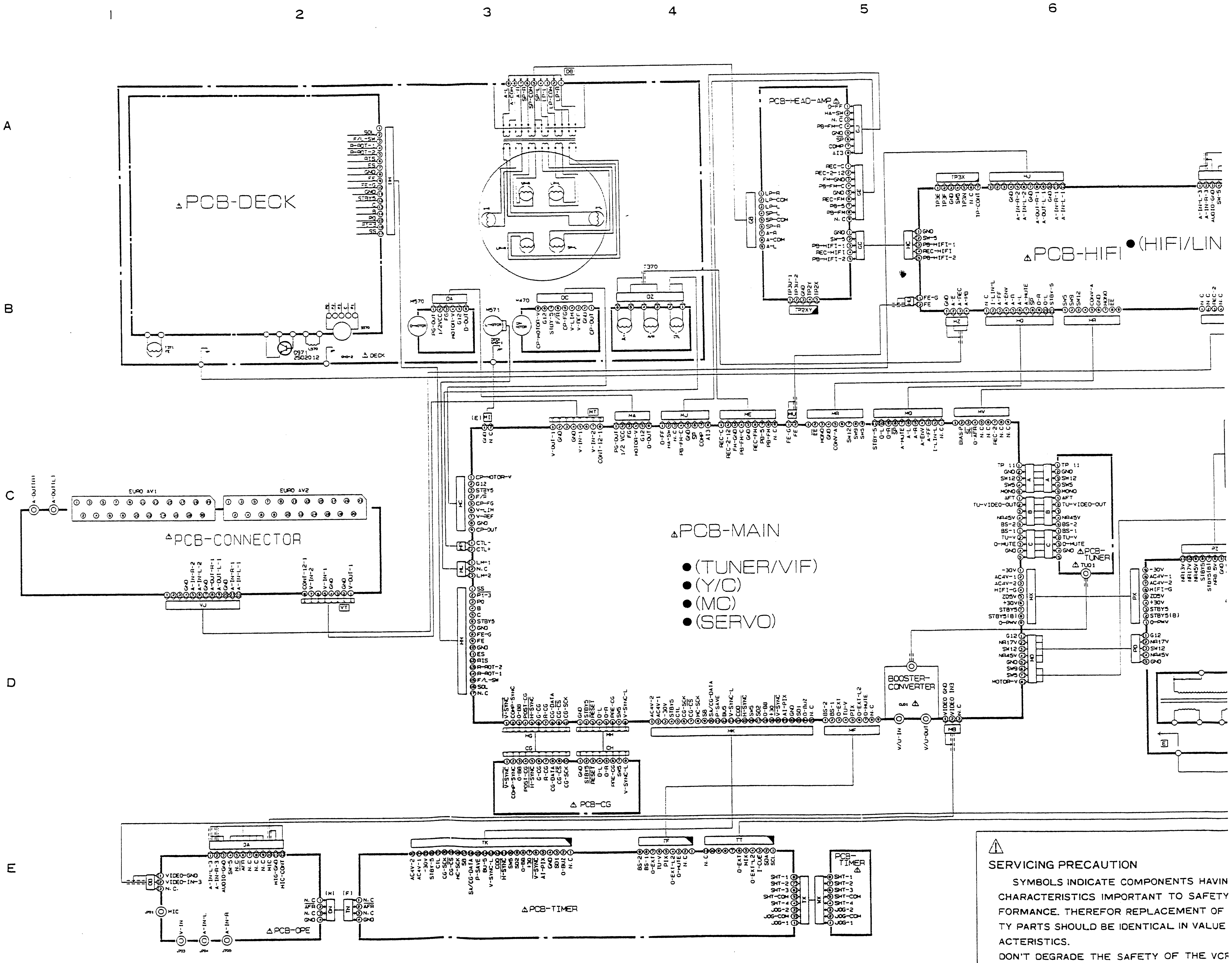
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
C-039	641C796010	○	D-2		LEVER-TENS		01
C-041	641C991010	○	J-4		ARM-GEAR-TU-G2		01
C-042	641C804010	○	F-5		LEVER-REC-SAFETY		01
C-043	641C806010	○	L-1		CAP-ARM-PINCH		01
C-044	641C861010		E-1		HOLDER-T-BAND		01
C-045	621D509010	○	L-3		GEAR-1		01
C-050	522C076020	○	H-2		UNIT-REEL-DISK		02
C-052	641B319010	○	C-5		UNIT-IMP-ROLLER		01
C-062	591B547010	○	F-3		ARM-TENSION		01
C-063	591B552010	○	F-1		BELT-TENS-BRAKE		01
C-069	592C930010		L-6		LEVER-TENS-TU		01
C-070	635D063010		I-5		NUT-TAPER		01
C-091	572D309010	○	H-4		SPRING-M-B		02
C-092	572D391010	○	E-2		SPRING-TENS-REG-S2		01
C-093	572D390010	○	I-4		SPRING-TENS-REG-T2		01
C-094	572D312010	○	F-3		SPRING-TENS		01
C-096	572D317010	○	K-5		SPRING-TU-G		01
C-097	572D318010	○	M-7		SPRING-ARM-A/C		01
C-098	572D328010	○	D-2		SPRING-REC-SAFETY		01
C-150	669D227010	○	M-3		SCREW-TS	M2.6×6	02
C-151	669D227030	○	C-4		SCREW-TS	M2.6×10	01
C-152	669D228010		E-1		SCREW-TS-SEMS	M2.6×6	01
C-154	669D285040		J-6		SCREW-TB-PAN	M2.6×8	03
C-160	674D081020	○	K-4		NUT-NYLON	M3×0.5	01
C-161	674D100010	○	L-6		NUT-NYLON-S	M4×0.7	01
C-175	552C007030	○	I-3		CUT-WASHER	2.5	01
C-180	685C009010	○	F-2		GRIP-RING		01
C-181	685C009020	※	L-1		GRIP-RING		01
A-040	299C025010	○	G-1		BRUSH		01
							01
							01
A-055	590A256020	○	A-6		UNIT-F/L-F		01
A-060	572D401010	○	I-4		SPRING-RS		01
A-070	641C906010	○	F-9		HOLDER-CARD		01
A-150	669D227010	○	G-1		SCREW-TS	M2.6×6	01
A-151	669D227020	○	A-5	D-7	SCREW-TS	M2.6×8	02

※C-017 ASSY-ARM-PINCH and C-181 GRIP RING in ASSEMBLY DECK-1 and C-075 BELT-REEL in ASSEMBLY DECK-2 are referred to a Kit of consumed parts (789C007020).

CONTENTS

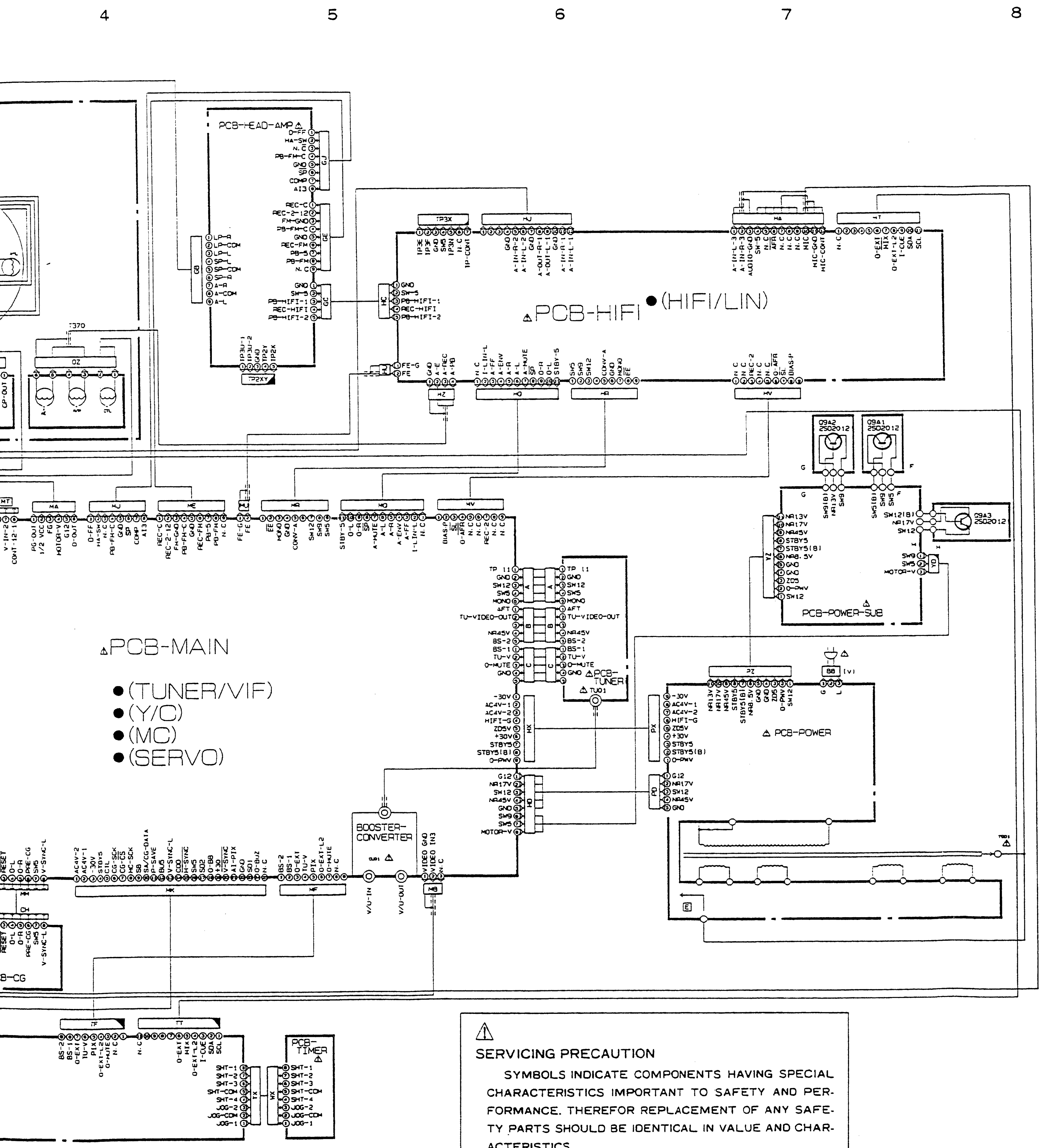
①	PCB-BLOCK DIAGRAM PCB-HEAD-AMP
②	PCB-POWER PCB-TIMER
③	PCB-HIFI (HIFI/LIN)
④	PCB-MAIN (TUNER/VIF) PCB-CONNECTOR
⑤	PCB-MAIN (Y/C)
⑥	PCB-DECK PCB-MAIN (MC)
⑦	PCB-CG PCB-MAIN (SERVO)
⑧	TRANSMITTER REMOTE CONTROL PATTERN
⑨	PATTERN

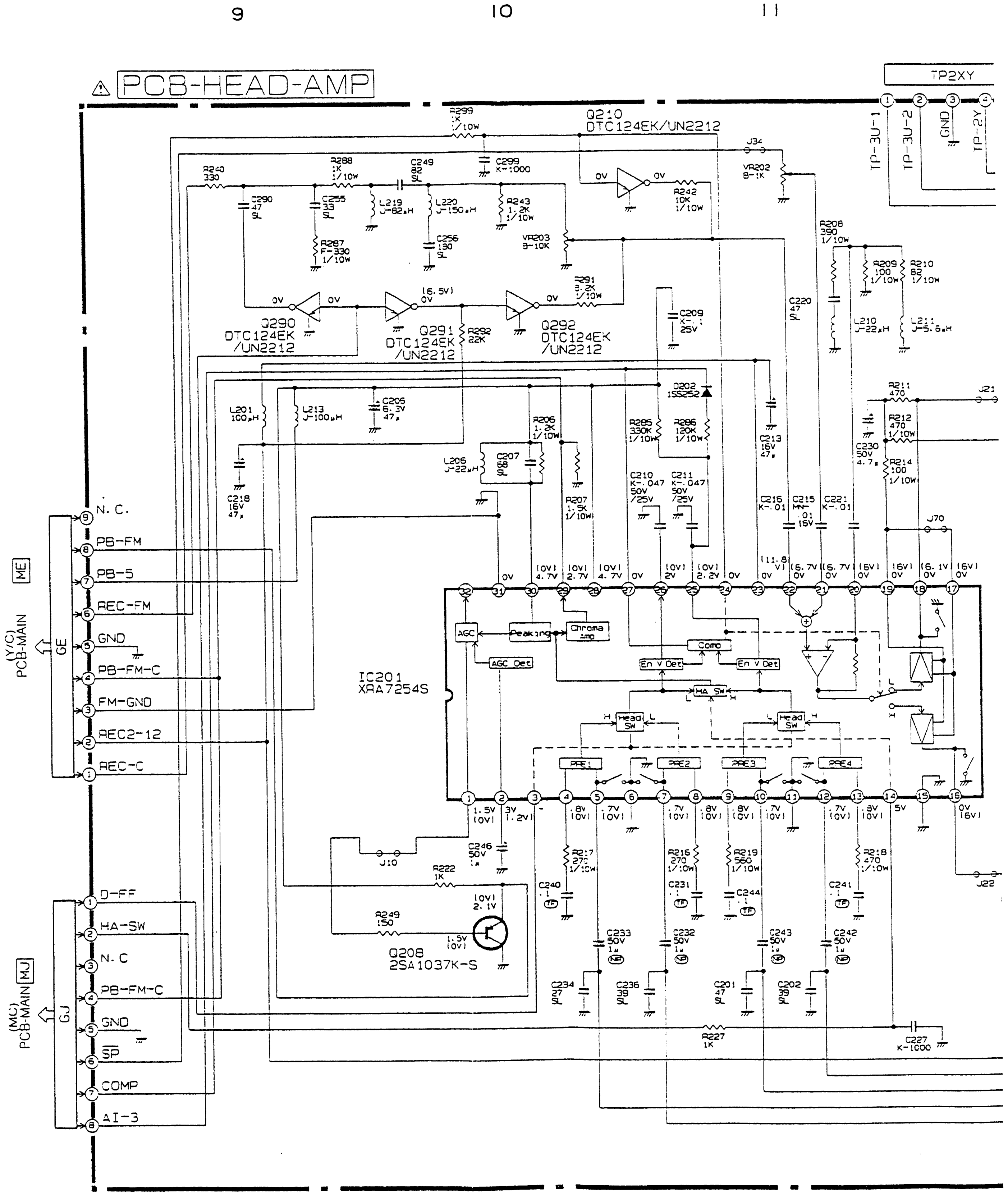

1
2
3
4
5
6
A
B
C
D
E
△PCB-DECK
PCB-HEAD-AMP△
△PCB-HIFI
●(HIFI/LIN
△PCB-MAIN
●(TUNER/VIF)
●(Y/C)
●(MC)
●(SERVO)
△PCB-CONNECTOR
EURO AV1
EURO AV2
△PCB-TUNER
TU01
BOOSTER-CONVERTER
△PCB-CG
△PCB-TIMER
PCB-TIMER
△PCB-OPE
△DECK
2SD2012
V-IN
A-IN-L
A-IN-R
MIC
V/U-IN
V/U-OUT
A-OUT(R)
A-OUT(L)

⚠

SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVIN
CHARACTERISTICS IMPORTANT TO SAFETY
FORMANCE. THEREFOR REPLACEMENT OF
TY PARTS SHOULD BE IDENTICAL IN VALUE
ACTERISTICS.
DON'T DEGRADE THE SAFETY OF THE VCF
IMPROPER SERVICING.

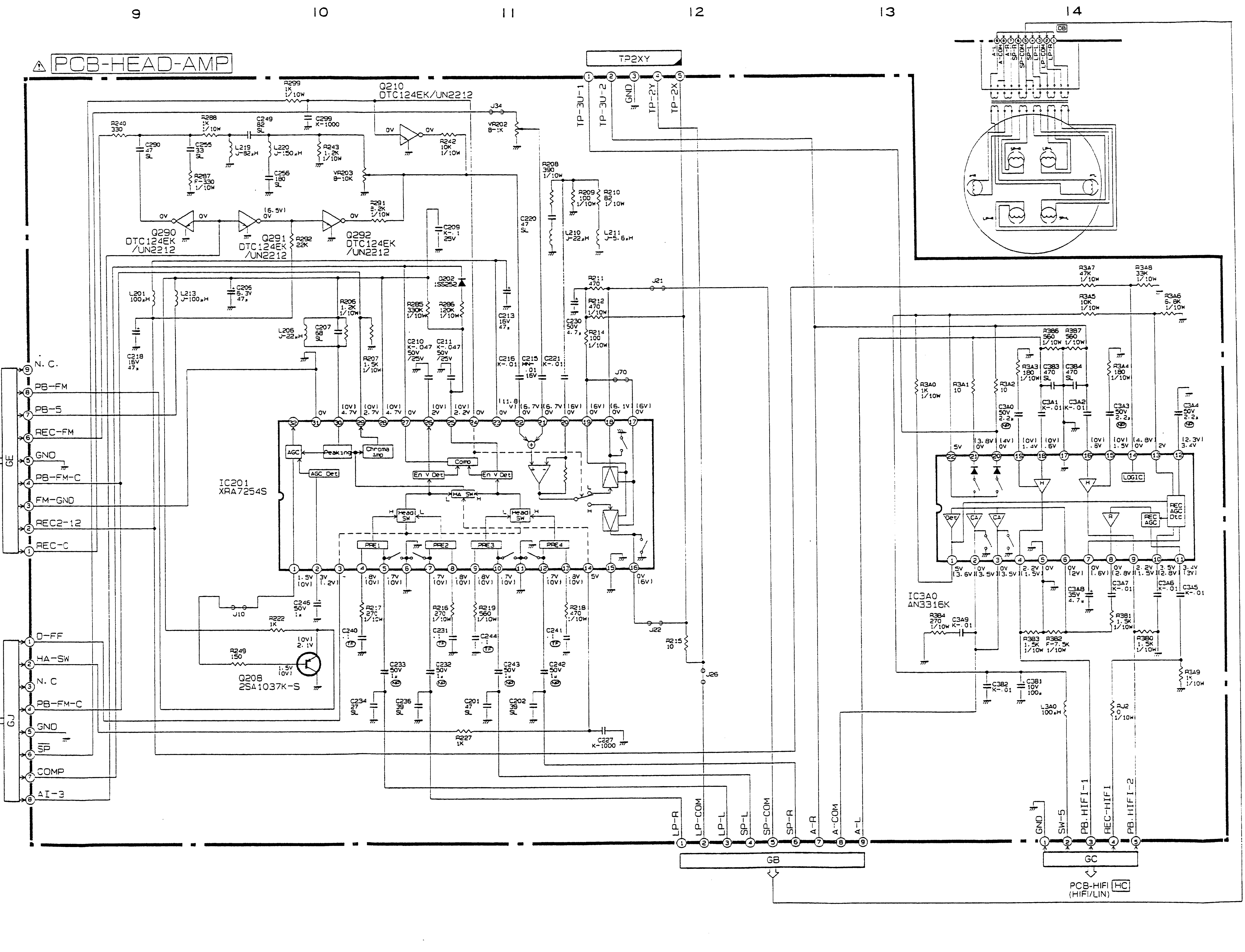

4
5
6
7
8
PCB-HEAD-AMP
PCB-HIFI
(HIFI/LIN)
PCB-MAIN
(TUNER/VIF)
(Y/C)
(MC)
(SERVO)
PCB-TUNER
PCB-POWER-SUB
PCB-POWER
BOOSTER-CONVERTER
PCB-TIMER
Q9A2 2SD2012
Q9A1 2SD2012
Q9A3 2SD2012
TP2XY
TU01


9
10
11
PCB-HEAD-AMP
TP2XY
Q210 DTC124EK/UN2212
Q290 DTC124EK /UN2212
Q291 DTC124EK /UN2212
Q292 DTC124EK /UN2212
Q202 1SS252
IC201 XRA7254S
Q208 2SA1037K-S
(Y/C) PCB-MAIN
ME
GE
N. C.
PB-FM
PB-5
REC-FM
GND
PB-FM-C
FM-GND
REC2-12
REC-C
(MC) PCB-MAIN
MJ
GJ
D-FF
HA-SW
N. C
PB-FM-C
GND
SP
COMP
AI-3
AGC
Peaking
Chroma amp
AGC Det
Comp
En V Det
HA SW
Head SW
PRE1
PRE2
PRE3
PRE4
TP-3U-1
TP-3U-2
GND
TP-2Y

SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.

DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.


9
10
11
12
13
14
PCB-HEAD-AMP
TP2XY
TP-3U-1
TP-3U-2
GND
TP-2Y
TP-2X
GB
Q210
DTC124EK/UN2212
Q290
DTC124EK
/UN2212
Q291
DTC124EK
/UN2212
Q292
DTC124EK
/UN2212
IC201
XRA7254S
AGC
Peaking
Chroma amp
AGC Det
Comp
En V Det
HA SW
Head SW
PRE1
PRE2
PRE3
PRE4
Q208
2SA1037K-S
IC3A0
AN3316K
LOGIC
REC AGC
REC AGC Dtc
Det
CA
GE
N. C
PB-FM
PB-S
REC-FM
GND
PB-FM-C
FM-GND
REC2-12
REC-C
GJ
D-FF
HA-SW
N. C
PB-FM-C
GND
SP
COMP
AI-3
LP-R
LP-COM
LP-L
SP-L
SP-COM
SP-R
A-R
A-COM
A-L
GND
SW-5
PB.HIFI-1
REC-HIFI
PB.HIFI-2
GC
PCB-HIFI HC
(HIFI/LIN)
A-L
A-COM
A-R
SP-COM
SP-L
LP-COM
LP-R
J34
J10
J21
J22
J26
J70
VR202
VR203
D202
1SS352

HS-M58(EE)

①

SCHEMATIC DIAGRAM

· NOTE

1. DC voltages were measured from points Indicated to the circuit ground with a digital voltmeter.
2. The voltages parenthesised are on SP recording mode. While those without parenthesised on SP play back mode.
3. Waveforms were taken with standard colour bar signal.
4. TP6A. etc. show Test Points.

5. CAPACITORS

Value		Not indicated PF. for numbers more than 1 μF. for numbers less than 1
Dielectric Strength		Not indicated :50V
Tolerance		Not indicated =±10% No Tolerance is indicated for electrolytic capacitors and ±20% G=±2% P=+100% −0% Q=+30% −10% C=±0.25PF J=±5% Z=+80% −20% T=+200% −0% D=±0.5PF K=±10% F=±1PF M=±20% G=±2PF
Sort	I Parts except for chips	Not indicated : Ceramic capacitor (MF) : Polyester capacitor (PP) : Polypropylene film capacitor (ALM) : Aluminus electrolytic capacitor (TF) : Twin film capacitor (SC) : Semiconductor ceramic capacitor (MP) : Metalized paper (MPP) : Metalized plastic film capacitor (MMF) : Metalized polyester capacitor (MF PP) : Polyester polypropylene film capacitor (PS) : Styrol capacitor (TAN) or (TANT) : Tantalum capacitor —┤├— : Electrolytic capacitor (BP) or (NP) : Non polarized electrolytic capacitor
	II Chips	Not indicated : Ceramic capacitor chip —┤├— : Electrolytic capacitor (BP) or (NP) : Non polarized electrolytic capacitor chip
Characteristic (only ceramic capacitor)		Not indicated : F or B(high dielectric percentage) CH,SL,etc. : Temperature compensating types

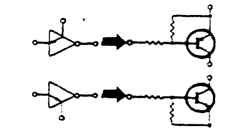
6. Resistors

Value		Not indicated = Ω K = kΩ(1000Ω) M = MΩ(1000kΩ)
Wattage	Parts except for chips	Not indicated = 1/4W or 1/6W
	Chips	Not indicated = 1/10W
Tolerance		Not indicated =±5% D=±0.5% J=±5% F=±1% K=±10%
Short	I Parts except for chips	Not indicated : Carbon resistor (S) : Fixed composition resistor (MB) : Metal oxide film resistor(type B) (CE) : Cemented resister (W) : Wire wound resister (M) : Metal film resister (MPC) : Metal plate cement resister (ML) : Metal liner resister
	II Chip	Not indicated : Chip resistor

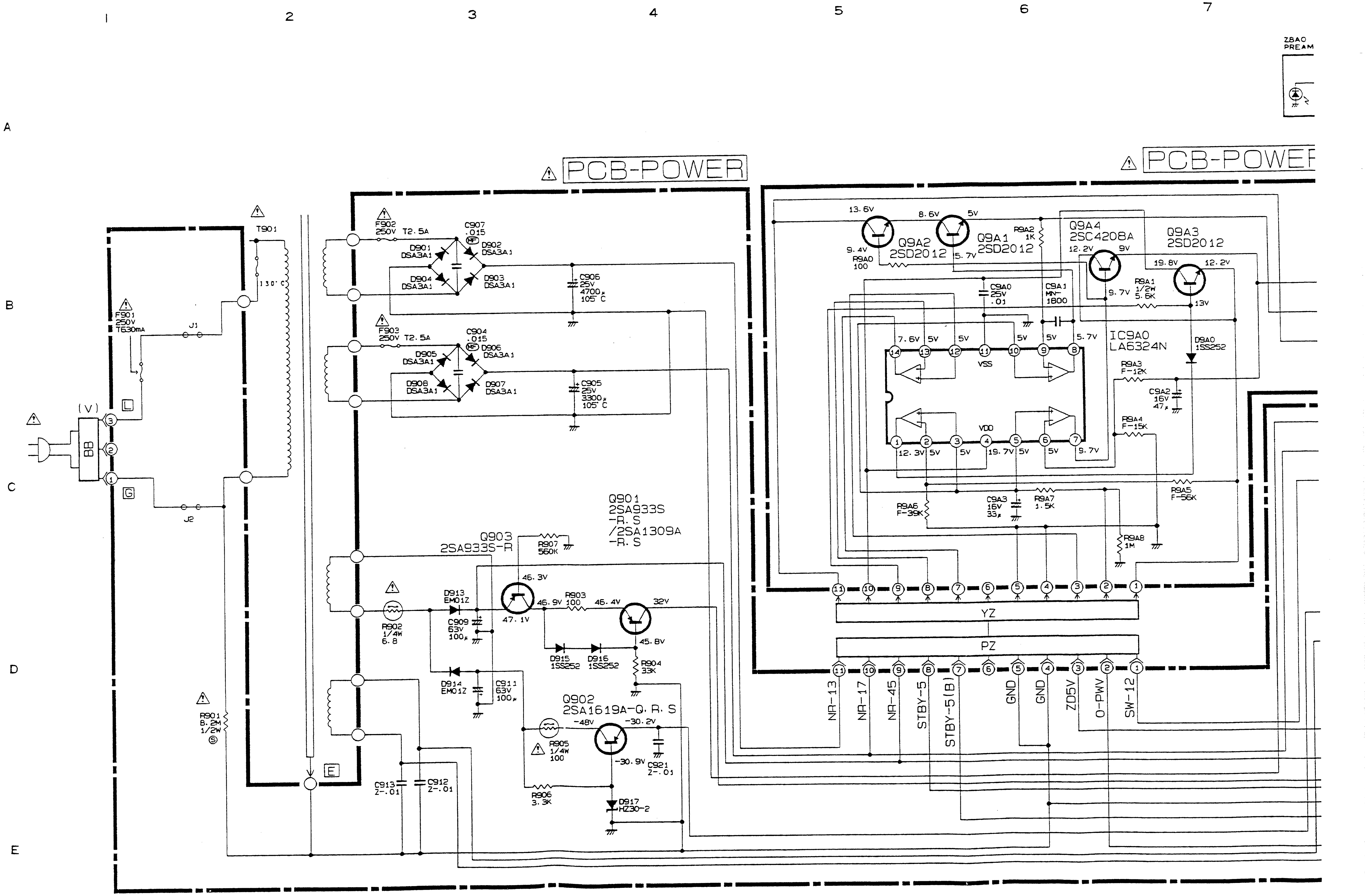
7. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

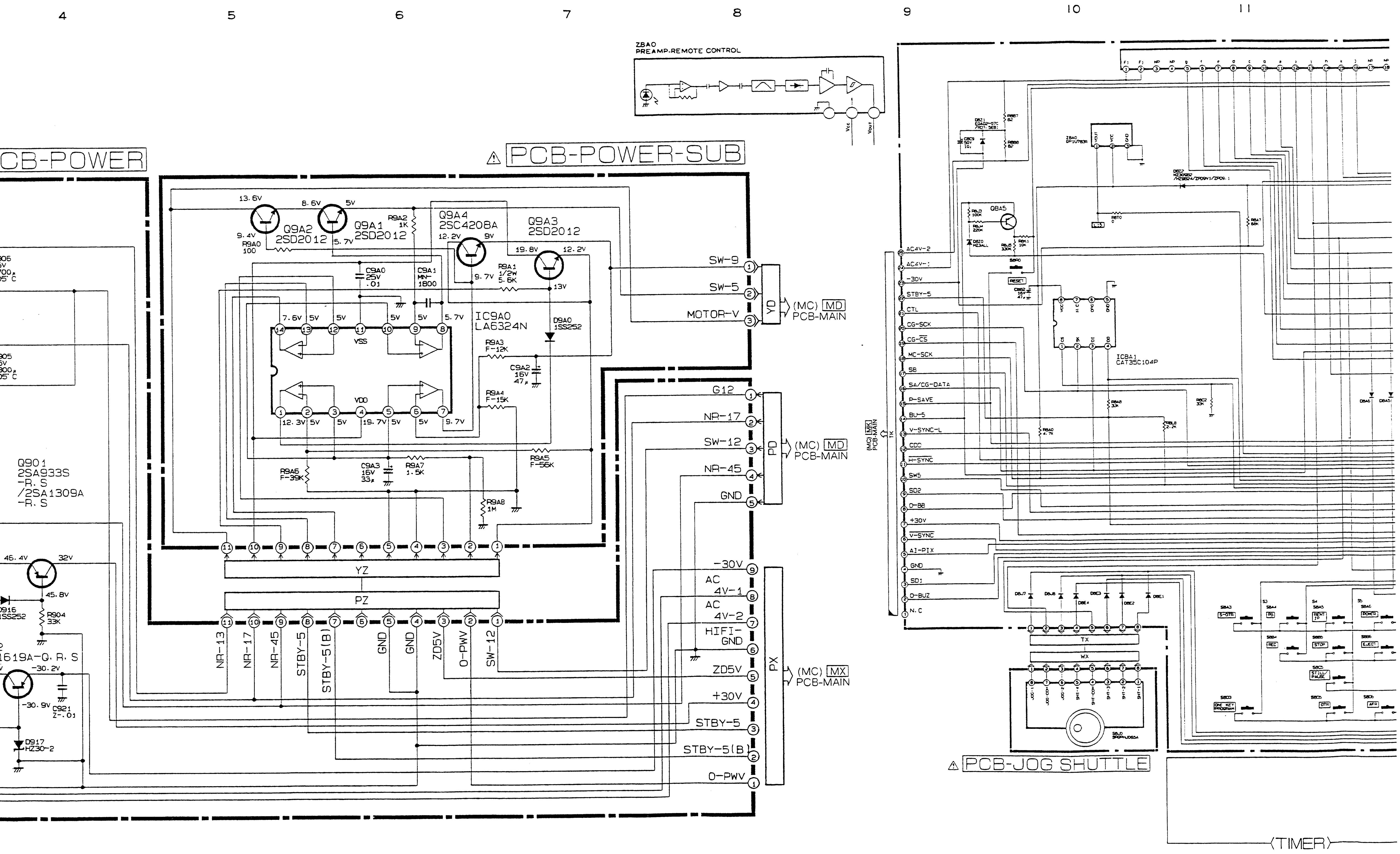
SPECIFIC SYMBOL

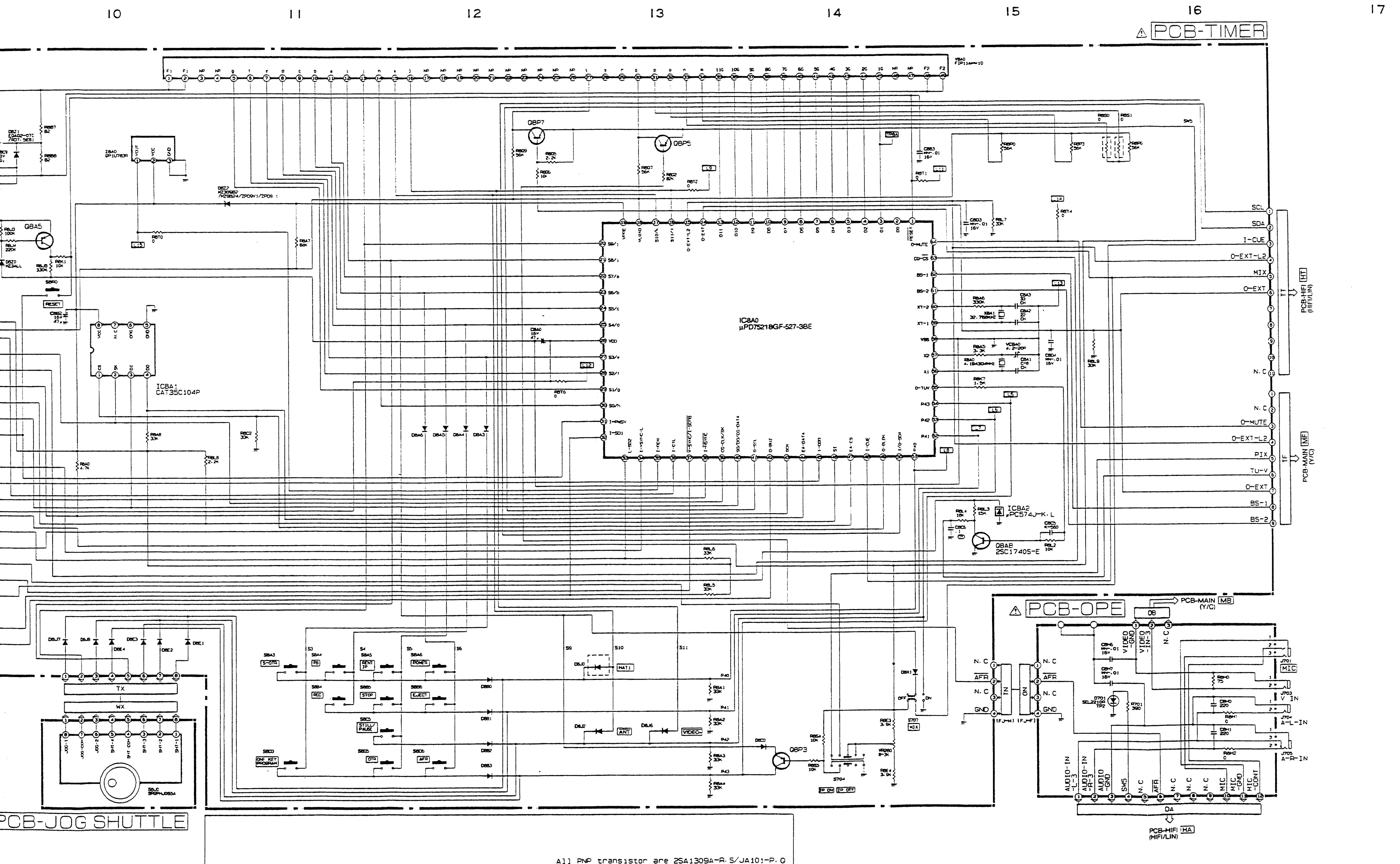
⊣◀⊢	Zener Diode	⊣▯⊢	Crystal unit
⊣◀⊢	Varicap		LE Diode
	Posistor		Photo Diode
	Thermistor		Ceramic filter
	Fusible Resistor		


PNP DIGITAL TRANSISTOR
NPN DIGITAL TRANSISTOR

Printed in JAPAN

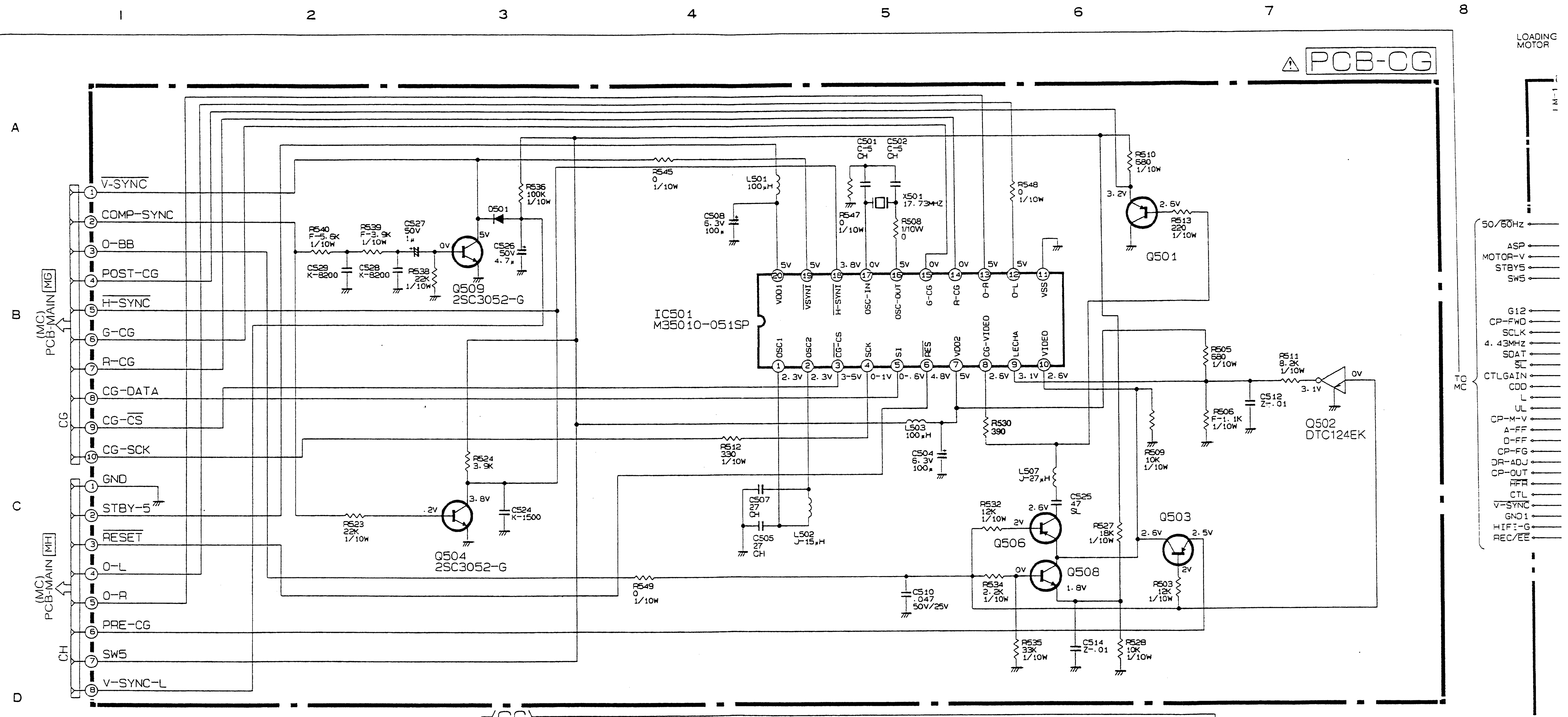

1
2
3
4
5
6
7
A
B
C
D
E
ZBA0
PREAM
PCB-POWER
PCB-POWER
T901
130°C
F901
250V
T630mA
J1
J2
(V)
BB
L
G
E
F902
250V T2.5A
C907
.015
MF
D901
DSA3A1
D902
DSA3A1
D904
DSA3A1
D903
DSA3A1
C906
25V
4700μ
105°C
F903
250V T2.5A
C904
.015
MF
D905
DSA3A1
D906
DSA3A1
D908
DSA3A1
D907
DSA3A1
C905
25V
3300μ
105°C
Q901
2SA933S
-R.S
/2SA1309A
-R.S
Q903
2SA933S-R
R907
560K
46.3V
R902
1/4W
6.8
D913
EM01Z
C909
63V
100μ
47.1V
46.9V
R903
100
46.4V
32V
45.8V
D915
1SS252
D916
1SS252
R904
33K
D914
EM01Z
C911
63V
100μ
Q902
2SA1619A-Q.R.S
-48V
-30.2V
R905
1/4W
100
-30.9V
C921
Z-.01
R906
3.3K
D917
HZ30-2
C913
Z-.01
C912
Z-.01
R901
8.2M
1/2W
S
13.6V
8.6V
5V
9.4V
R9A0
100
Q9A2
2SD2012
5.7V
Q9A1
2SD2012
R9A2
1K
Q9A4
2SC4208A
12.2V
9V
Q9A3
2SD2012
19.8V
12.2V
9.7V
R9A1
1/2W
5.6K
13V
C9A0
25V
.01
C9A1
MN-
1800
7.6V
5V
5V
5V
5V
5.7V
VSS
VDD
IC9A0
LA6324N
D9A0
1SS252
R9A3
F-12K
C9A2
16V
47μ
R9A4
F-15K
12.3V
5V
5V
19.7V
5V
5V
9.7V
R9A5
F-56K
R9A6
F-39K
C9A3
16V
33μ
R9A7
1.5K
R9A8
1M
YZ
PZ
NR-13
NR-17
NR-45
STBY-5
STBY-5(B)
GND
GND
ZD5V
O-PWV
SW-12


4
5
6
7
8
9
10
11
ZBA0
PREAMP-REMOTE CONTROL
Vcc
Vout
CB-POWER
⚠ PCB-POWER-SUB
13.6V
8.6V
5V
9.4V
Q9A2
2SD2012
Q9A1
2SD2012
R9A0
100
R9A2
1K
5.7V
Q9A4
2SC4208A
12.2V
9V
9.7V
Q9A3
2SD2012
19.8V
12.2V
13V
R9A1
1/2W
5.6K
C9A0
25V
.01
C9A1
MN-
1800
IC9A0
LA6324N
VSS
VDD
D9A0
1SS252
R9A3
F-12K
C9A2
16V
47μ
R9A4
F-15K
R9A5
F-56K
R9A6
F-39K
C9A3
16V
33μ
R9A7
1.5K
R9A8
1M
SW-9
SW-5
MOTOR-V
YD
(MC) MD
PCB-MAIN
G12
NR-17
SW-12
NR-45
GND
PD
YZ
PZ
NR-13
NR-17
NR-45
STBY-5
STBY-5(B)
GND
GND
ZD5V
O-PWV
SW-12
-30V
AC
4V-1
AC
4V-2
HIFI-
GND
ZD5V
+30V
STBY-5
STBY-5(B)
O-PWV
PX
(MC) MX
PCB-MAIN
Q901
2SA933S
-R.S
/2SA1309A
-R.S
46.4V
32V
45.8V
D916
1SS252
R904
33K
1619A-Q.R.S
-30.2V
-30.9V
C921
Z-.01
D917
HZ30-2
AC4V-2
AC4V-1
-30V
STBY-5
CTL
CG-SCK
CG-CS
MC-SCK
SB
SA/CG-DATA
P-SAVE
BU-5
V-SYNC-L
CDC
H-SYNC
SW5
SD2
O-B8
+30V
V-SYNC
AI-PIX
GND
SD1
O-BUZ
N.C
(MC) MK
PCB-MAIN
TK
ZBA0
GP1U783R
QBA5
RESET
IC8A1
CAT35C104P
TX
WX
S-OTR
REC
STOP
EJECT
POWER
STILL/
PAUSE
ONE KEY
PROGRAM
OTR
AFR
⚠ PCB-JOG SHUTTLE
(TIMER)


10
11
12
13
14
15
16
17
PCB-TIMER
IC8A0
μPD75218GF-527-3BE
ICBA1
CAT35C104P
ICBA2
μPC574J-K·L
Q8A8
2SC1740S-E
Q8P7
Q8P5
Q8A5
Q8P3
RESET
SCL
SDA
I-CUE
O-EXT-L2
MIX
O-EXT
N.C
PCB-HIFI HT
(HIFI/LIN)
N.C
O-MUTE
O-EXT-L2
PIX
TU-V
O-EXT
BS-1
BS-2
PCB-MAIN MF
(Y/C)
PCB-OPE
PCB-MAIN MB
(Y/C)
VIDEO -GND
VIDEO -IN-3
N.C
MIC
V IN
A-L-IN
A-R-IN
AUDIO-IN -L-3
AUDIO-IN -R-3
AUDIO GND
SW5
N.C
AFR
N.C
N.C
N.C
MIC
MIC GND
MIC CONT
PCB-HIFI HA
(HIFI/LIN)
N.C
AFR
N.C
GND
IN
ON
S-OTR
PB
RENT 1P
POWER
REC
STOP
EJECT
STILL/ PAUSE
ONE KEY PROGRAM
OTR
AFR
ANT
VIDEO
MAT1
MIX
TX
WX
PCB-JOG SHUTTLE

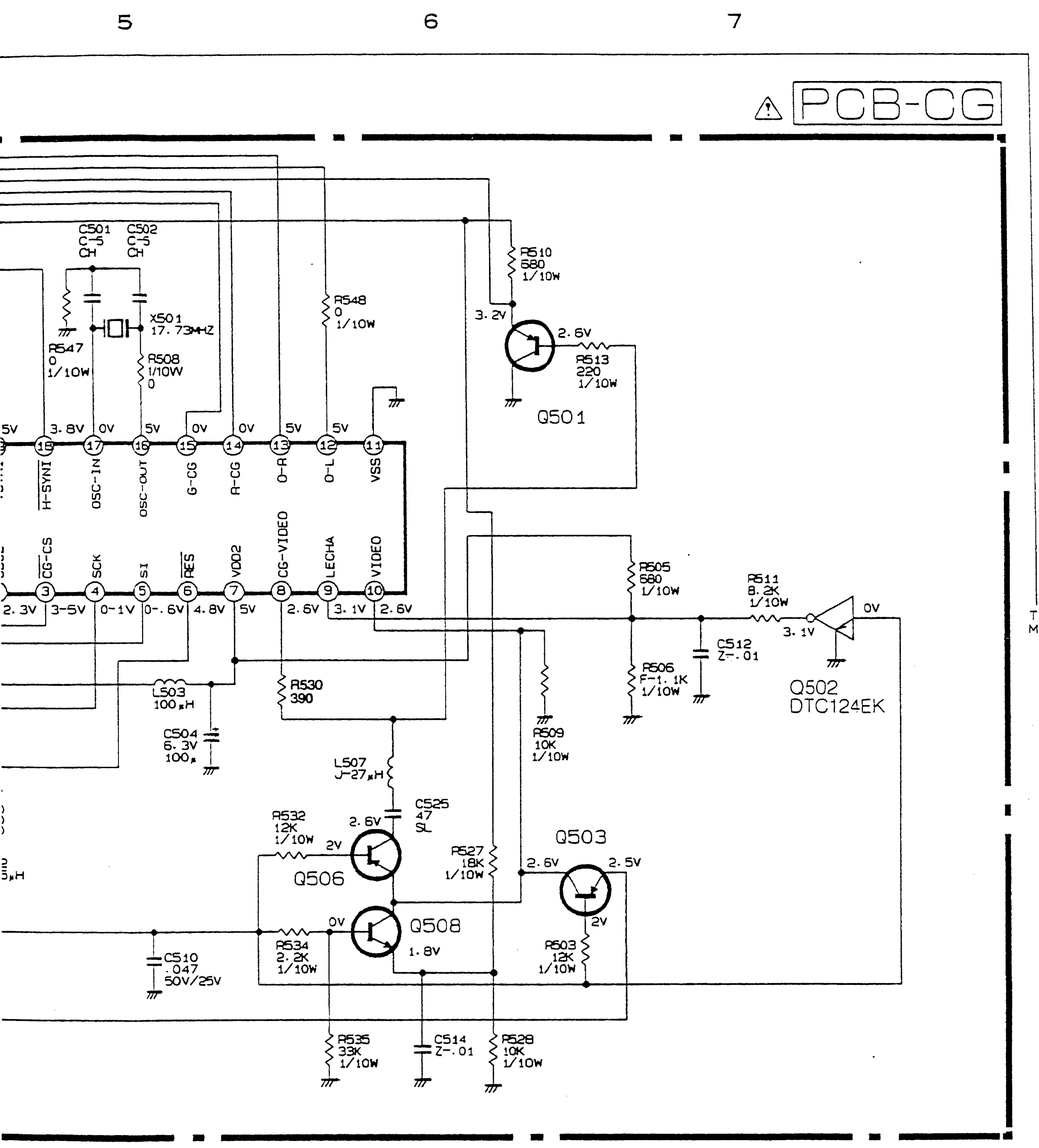
All PNP transistor are 2SA1309A-R.S/JA101-P.Q
unless otherwise specified.
All diodes are 1SS252/1SS131
unless otherwise specified.

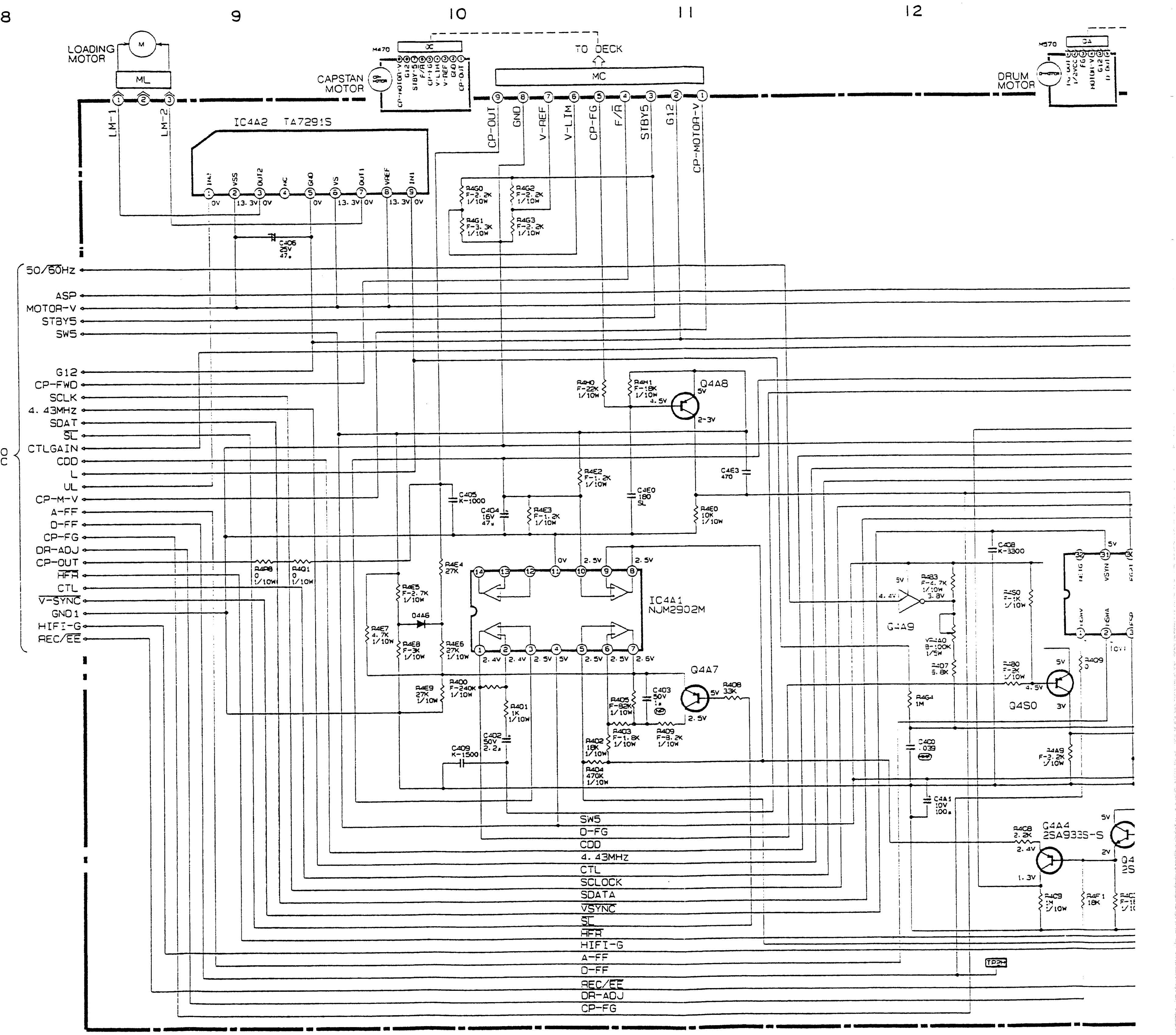
(TIMER)


1
2
3
4
5
6
7
8
A
B
C
D
E
PCB-CG
LOADING MOTOR
V-SYNC
COMP-SYNC
O-BB
POST-CG
H-SYNC
G-CG
R-CG
CG-DATA
CG-CS
CG-SCK
GND
STBY-5
RESET
O-L
O-R
PRE-CG
SW5
V-SYNC-L
(MC) PCB-MAIN MG
CG
(MC) PCB-MAIN MH
CH
IC501
M35010-051SP
VDD1
VSYNI
H-SYNI
OSC-IN
OSC-OUT
G-CG
R-CG
O-R
O-L
VSS
OSC1
OSC2
CG-CS
SCK
SI
RES
VDD2
CG-VIDEO
LECHA
VIDEO
Q509
2SC3052-G
Q504
2SC3052-G
Q501
Q502
DTC124EK
Q503
Q506
Q508
D501
X501
17.734MHZ
R540 F-5.6K 1/10W
R539 F-3.9K 1/10W
C527 50V 1μ
C529 K-8200
C528 K-8200
R538 22K 1/10W
R536 100K 1/10W
C526 50V 4.7μ
R545 0 1/10W
L501 100μH
C508 6.3V 100μ
C501 CH-5
C502 CH-5
R547 0 1/10W
R508 1/10W 0
R548 0 1/10W
R510 680 1/10W
R513 220 1/10W
R505 680 1/10W
R506 F-1.1K 1/10W
R511 8.2K 1/10W
C512 Z-.01
R512 330 1/10W
L503 100μH
C504 6.3V 100μ
R530 390
R509 10K 1/10W
L507 J-27μH
C525 47 SL
R532 12K 1/10W
R527 18K 1/10W
R503 12K 1/10W
R534 2.2K 1/10W
R535 33K 1/10W
C514 Z-.01
R528 10K 1/10W
C510 .047 50V/25V
R549 0 1/10W
R524 3.9K
C524 K-1500
R523 22K 1/10W
C507 27 CH
C505 27 CH
L502 J-15μH
TO MC
50/60Hz
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHz
SDAT
SL
CTLGAIN
CDD
L
UL
CP-M-V
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
HFH
CTL
V-SYNC
GND1
HIFI-G
REC/EE

(CG)

All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E.F
unless otherwise specified.
All PNP transistors are 2SA1235-E.F
unless otherwise specified.


5
6
7
8
PCB-CG
C501 C-5 CH
C502 C-5 CH
X501 17.73MHZ
R547 0 1/10W
R508 1/10W 0
R548 0 1/10W
R510 580 1/10W
R513 220 1/10W
Q501
H-SYNC
OSC-IN
OSC-OUT
G-CG
R-CG
O-R
O-L
VSS
CG-CS
SCK
SI
RES
VDD2
CG-VIDEO
LECHA
VIDEO
R505 580 1/10W
R511 8.2K 1/10W
C512 Z-.01
R506 F-1.1K 1/10W
Q502 DTC124EK
L503 100μH
C504 6.3V 100μ
R530 390
R509 10K 1/10W
L507 J-27μH
C525 47 SL
R532 12K 1/10W
Q506
R527 18K 1/10W
Q503
Q508
R534 2.2K 1/10W
R503 12K 1/10W
C510 .047 50V/25V
R535 33K 1/10W
C514 Z-.01
R528 10K 1/10W

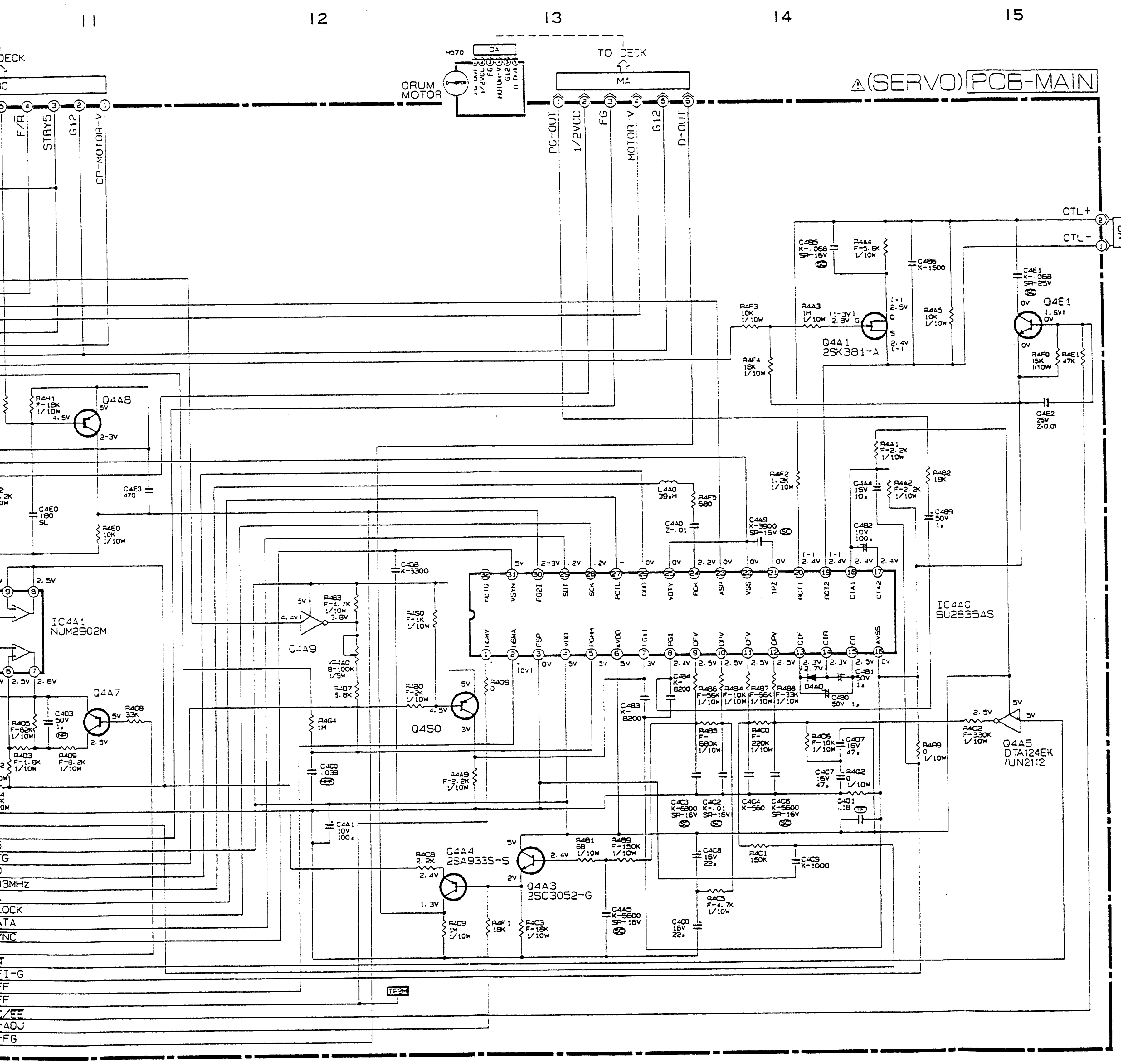

9
10
11
12
LOADING MOTOR
ML
CAPSTAN MOTOR
TO DECK
MC
DRUM MOTOR
LM-1
LM-2
IC4A2 TA7291S
CP-OUT
GND
V-REF
V-LIM
CP-FG
F/R
STBY5
G12
CP-MOTOR-V
C406 25V 47μ
R4G0 F-2.2K 1/10W
R4G1 F-3.3K 1/10W
R4G2 F-2.2K 1/10W
R4G3 F-2.2K 1/10W
50/60Hz
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHz
SDAT
SL
CTLGAIN
CDD
L
UL
CP-M-V
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
HFR
CTL
V-SYNC
GND1
HIFI-G
REC/EE
TO MC
Q4A8
C405 K-1000
C404 16V 47μ
R4E3 F-1.2K 1/10W
R4E2 F-1.2K 1/10W
C4E0 180 SL
R4E0 10K 1/10W
C4E3 470
IC4A1 NJM2902M
D4A6
R4E5 F-2.7K 1/10W
R4E7 4.7K 1/10W
R4E8 F-3K 1/10W
R4E6 27K 1/10W
R4E4 27K
R4E9 27K 1/10W
R400 F-240K 1/10W
R401 1K 1/10W
C402 50V 2.2μ
C409 K-1500
R405 F-82K 1/10W
C403 50V 1μ
Q4A7
R408 33K
R403 F-1.8K 1/10W
R409 F-8.2K 1/10W
R402 18K 1/10W
R404 470K 1/10W
Q4A9
C408 K-3300
Q4S0
Q4A4 2SA933S-S
SW5
D-FG
CDD
4.43MHZ
CTL
SCLOCK
SDATA
VSYNC
SL
HFR
HIFI-G
A-FF
D-FF
REC/EE
DR-ADJ
CP-FG

All Diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E·F unless otherwise specified.
All PNP transistors are 2SA1235-E·F unless otherwise specified.

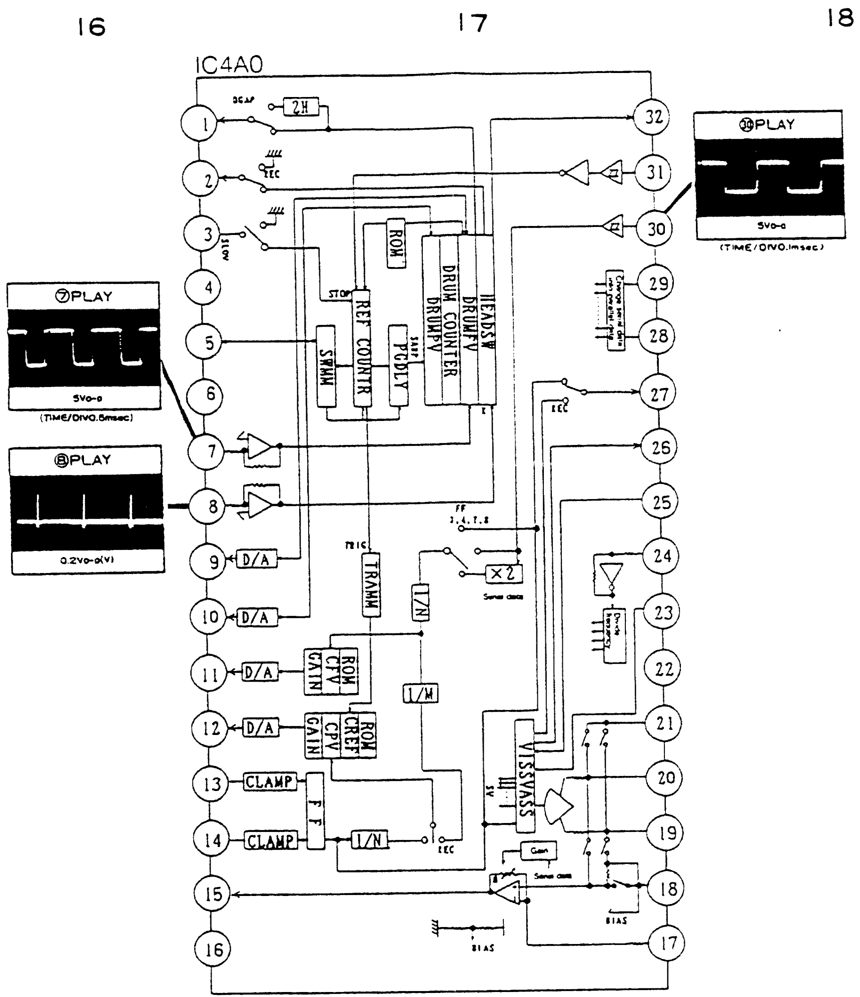
are 1SS252/1SS131 unless otherwise specified.
ansistors are 2SC3052-E·F
erwise specified.
ansistors are 2SA1235-E·F
erwise specified.

<SERVO>

All Diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E·F unless otherwise specified.
All PNP transistors are 2SA1235-E·F unless otherwise specified.

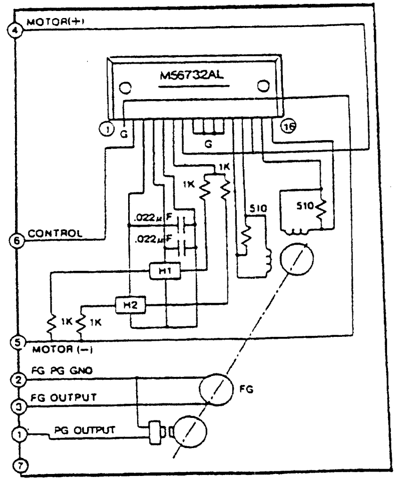


11
12
13
14
15
TO DECK
DRUM MOTOR
M370
M4
⚠(SERVO) PCB-MAIN
F/R
STBY5
G12
CP-MOTOR-V
PG-OUT
1/2VCC
FG
MOTOR-V
G12
D-OUT
CTL+
CTL-
MP
A/C HEAD T370
Q4A8
Q4A7
Q4A9
Q4S0
Q4A4 2SA933S-S
Q4A3 2SC3052-G
Q4A1 2SK381-A
Q4E1
Q4A5 DTA124EK /UN2112
IC4A1 NJM2902M
IC4A0 BU2835AS
TP2
3MHZ
LOCK
ATA
YNC
FI-G
FF
FF
C/EE
-ADJ
-FG



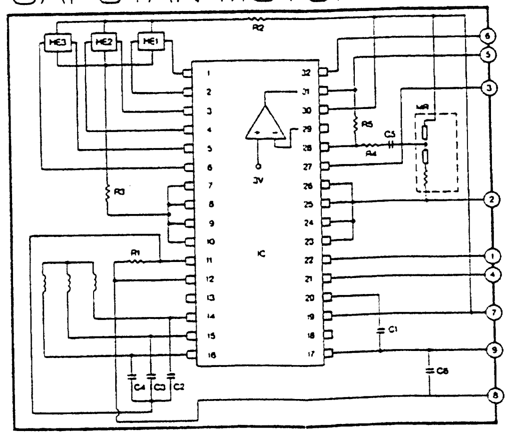
16
17
18
IC4A0
⑦PLAY
5Vo-o
(TIME/DIV0.5msec)
⑧PLAY
0.2Vo-o(V)
⑩PLAY
5Vo-o
(TIME/DIV0.1msec)
ROM
HEADSW
DRUMPV
DRUM COUNTER
DRUMPV
REF COUNTER
SWMM
PGDLY
TRAMM
D/A
ROM CPV GAIN
ROM CREF CPV GAIN
CLAMP
F/F
1/N
1/M
VISSVASS
×2

DRUM MOTOR



MOTOR(+)
M56732AL
CONTROL
MOTOR(-)
FG PG GND
FG OUTPUT
PG OUTPUT
FG
H1
H2

CAPSTAN MOTOR



HE3
HE2
HE1
IC

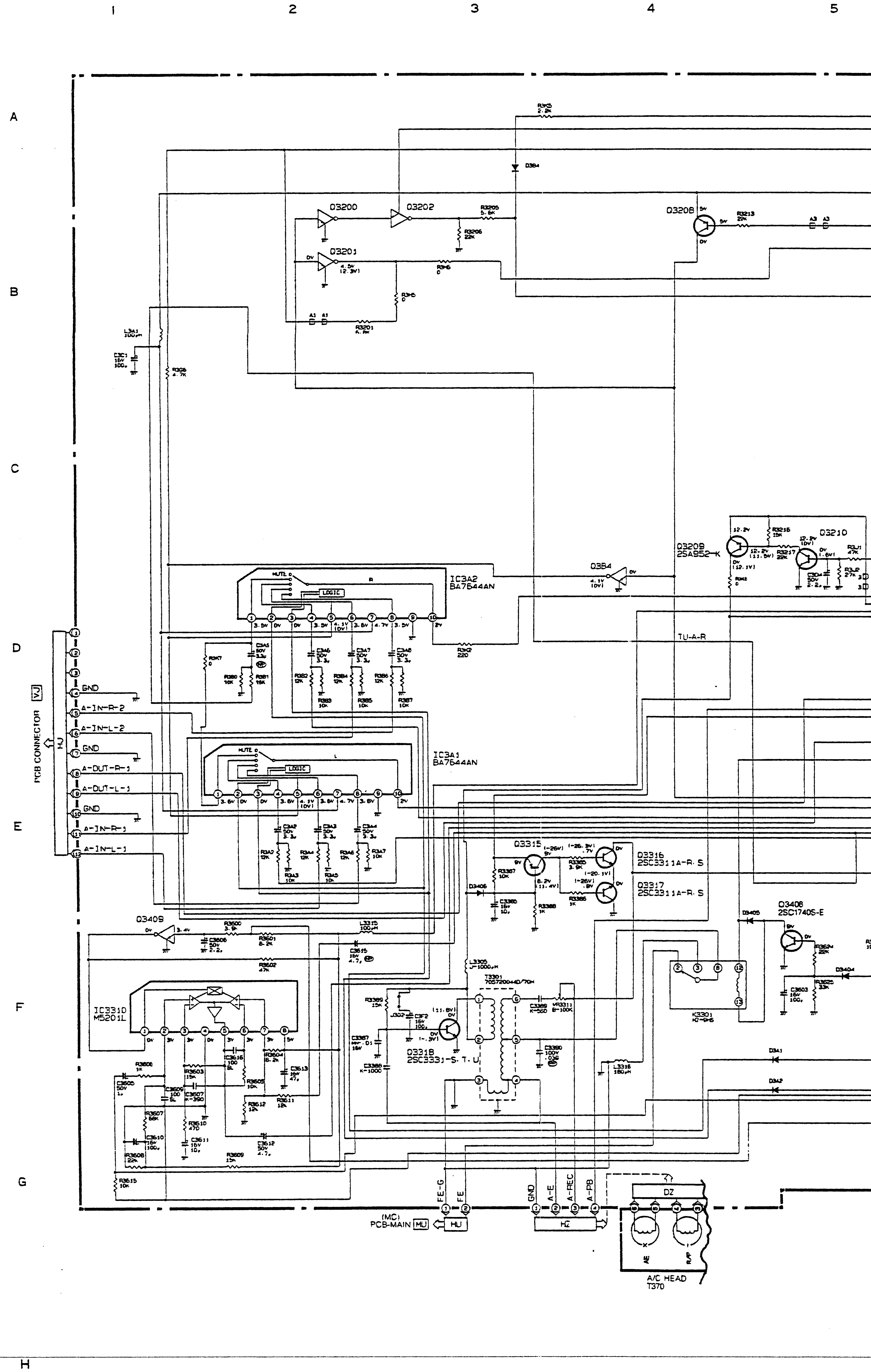
(SERVO)

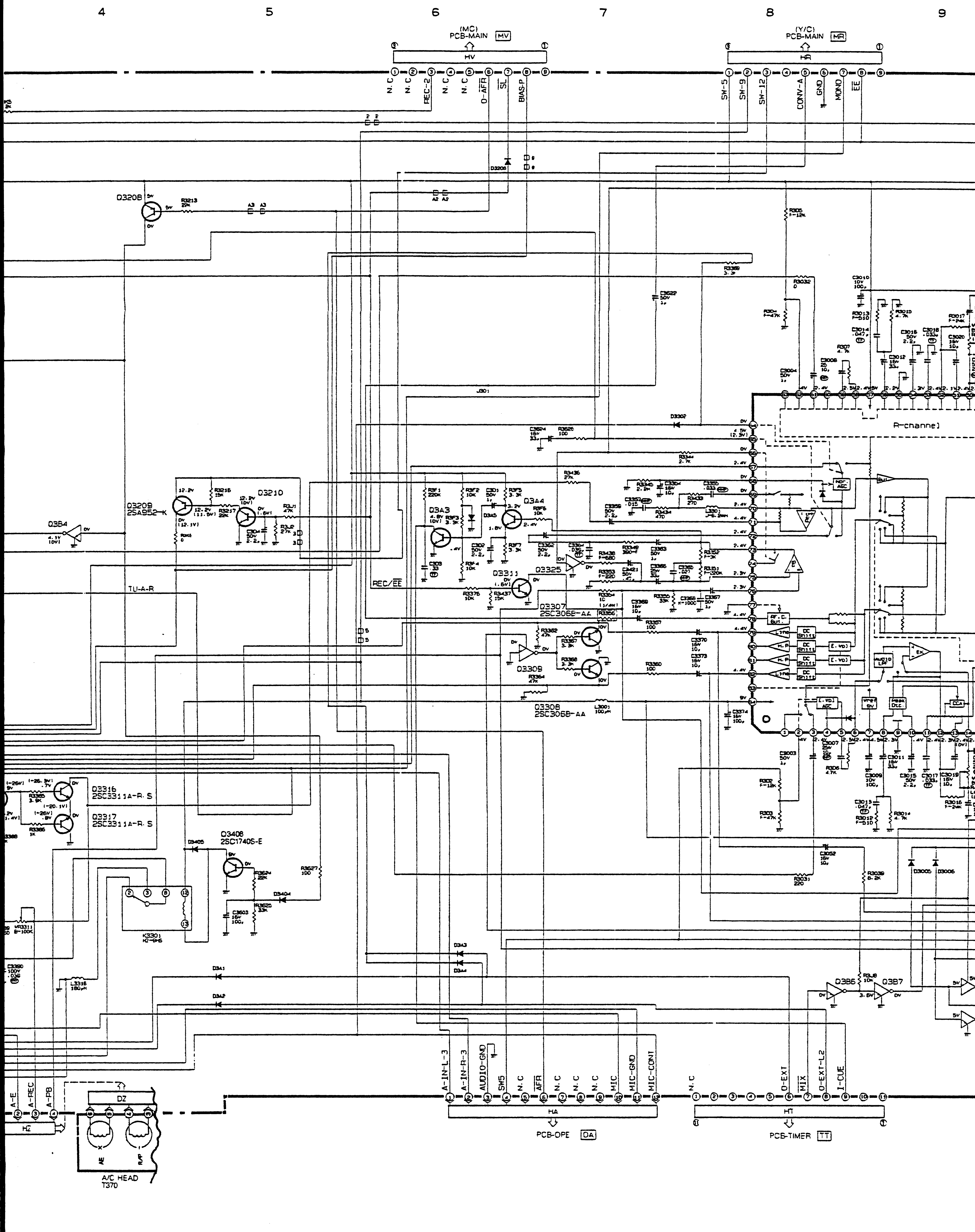
All diodes are 1SS252/1SS131 unless otherwise specified.

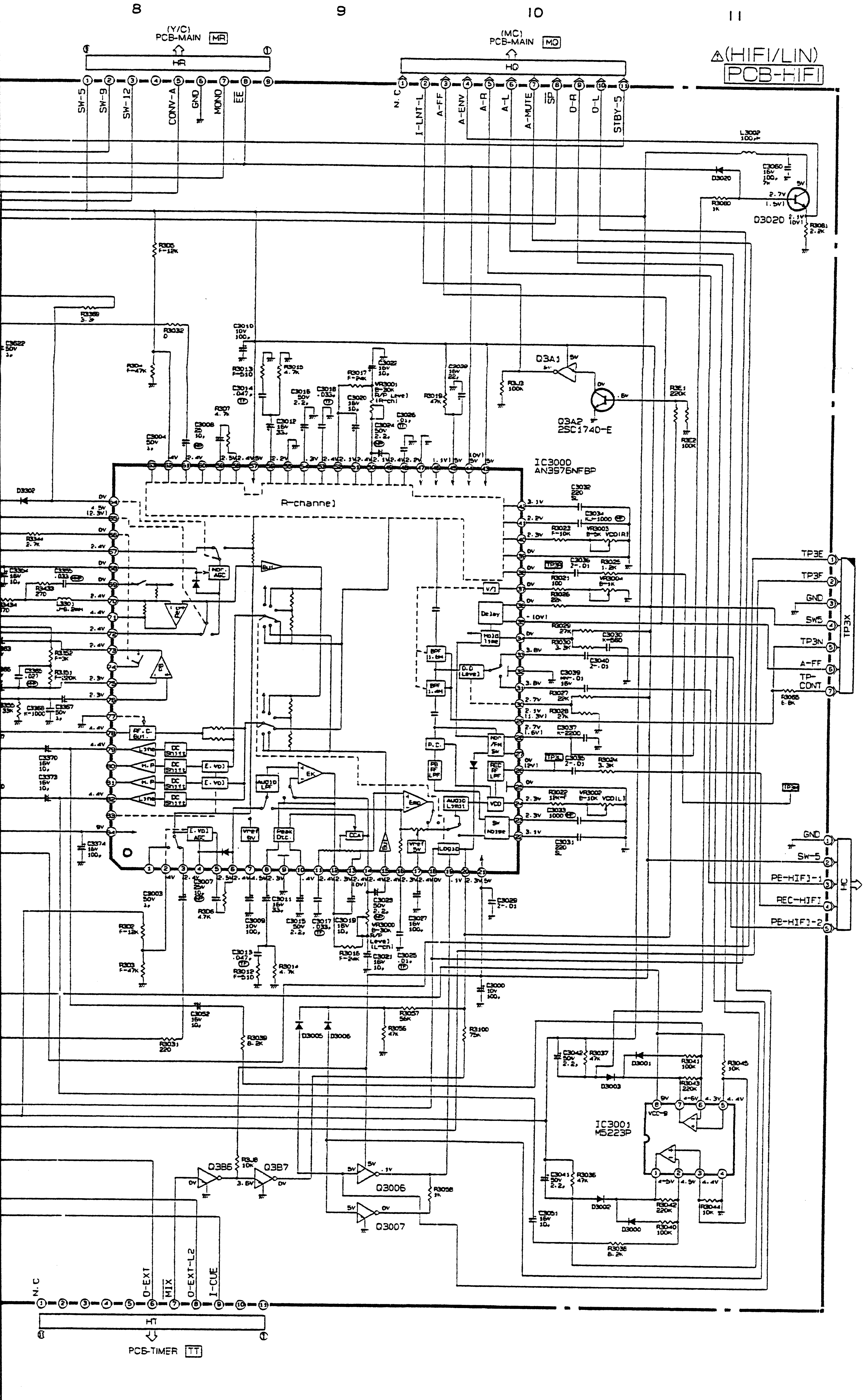
All NPN transistors are 2SC3052-E·F unless otherwise specified.

All PNP transistors are 2SA1235-E·F unless otherwise specified.

HS-M58(EE)


1
2
3
4
5
A
B
C
D
E
F
G
H
Q3200
Q3202
Q3201
Q3208
R3205 5.6K
R3206 22K
R3201 6.8K
R3213 22K
D384
L3A1 100μH
C3C1 16V 100μ
R3G8 4.7K
IC3A2 BA7644AN
IC3A1 BA7644AN
MUTE
LOGIC
R
L
Q3B4
TU-A-R
R3K2 220
Q3209 2SA952-K
Q3210
R3216 15K
R3217 22K
PCB CONNECTOR
VJ
HJ
GND
A-IN-R-2
A-IN-L-2
GND
A-OUT-R-1
A-OUT-L-1
GND
A-IN-R-1
A-IN-L-1
Q3315
Q3316 2SC3311A-R·S
Q3317 2SC3311A-R·S
D3406
D3405
Q3408 2SC1740S-E
Q3409
IC3310 M5201L
L3315 100μH
R3602 47K
L3305 1000μH
T3301 7057200440/70H
VR3311 B-100K
Q3318 2SC3311-S·T·U
K3301
L3316 180μH
D341
D342
D3404
FE-G
FE
GND
A-E
A-REC
A-PB
(MC)
PCB-MAIN
MU
HU
HZ
DZ
AE
R/P
A/C HEAD
T370


4
5
6
7
8
9
(MC)
PCB-MAIN MV
HV
N.C
N.C
REC-2
N.C
N.C
O-AFR
SL
BIAS-P
(Y/C)
PCB-MAIN MR
HR
SW-5
SW-9
SW-12
CONV-A
GND
MONO
EE
Q3208
R3213 22K
D3206
R305 F-12K
R3359 3.3K
R3032 0
C3622 50V 1μ
R304 F-47K
C3004 50V 1μ
J301
D3302
C3624 16V 33μ
R3626 100
R-channel
R3344 2.7K
R3436 27K
Q3209 2SA952-K
R3216 15K
R3217 22K
Q3210
R3211 47K
R3212 27K
C3204 50V 2.2μ
Q3B4
Q3A3
Q3A4
D3A5
C3A3 33
Q3311
Q3325
R3376 10K
R3437 15K
REC/EE
TU-A-R
Q3307 2SC3068-AA
Q3309
Q3308 2SC3068-AA
L3001 100μH
C3374 16V 100μ
R3357 100
R3360 100
C3370 16V 10μ
C3373 16V 10μ
Line
M.P
DC Shift
E.Vol
AUDIO LPF
EX
E.Vol AGC
Vref
Peak Dtc
DCA
C3003 50V 1μ
R306 4.7K
C3009 10V 100μ
C3011 16V 33μ
C3015 50V 2.2μ
C3017 50V .033μ
C3019 16V 10μ
R3016 F-24K
C3013 .047μ
R3012 F-510
R3014 4.7K
R302 F-12K
R303 F-47K
Q3316 2SC3311A-R.S
Q3317 2SC3311A-R.S
R3385 3.9K
R3386 1K
D3405
Q3408 2SC1740S-E
R3624 22K
R3625 33K
R3627 100
D3404
C3603 16V 100μ
K3301 K2-6HS
VR3311 B-100K
C3380 100V .036
L3316 180μH
D3A3
D3A4
D3A1
D3A2
C3052 16V 10μ
R3039 8.2K
R3031 220
D3005
D3006
Q3B6
R3J8 10K
Q3B7
A-E
A-REC
A-PB
HZ
DZ
AE
R/P
A/C HEAD T370
A-IN-L-3
A-IN-R-3
AUDIO-GND
SW5
N.C
AFR
N.C
N.C
N.C
MIC
MIC-GND
MIC-CONT
HA
PCB-OPE DA
N.C
O-EXT
MIX
O-EXT-L2
I-CUE
HT
PCB-TIMER TT

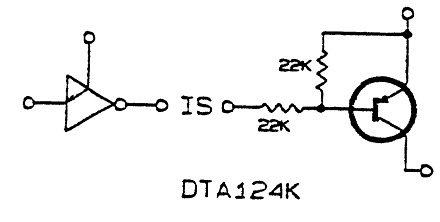

8
9
10
11
12
13
(Y/C)
PCB-MAIN MR
HR
SW-5
SW-9
SW-12
CONV-A
GND
MONO
EE
(MC)
PCB-MAIN MQ
HQ
N.C
I-LNT-L
A-FF
A-ENV
A-R
A-L
A-MUTE
SP
O-R
O-L
STBY-5
⚠(HIFI/LIN)
PCB-HIFI
L3002
D3020
C3060
R3080
Q3020
R3081
R305
R3369
R3032
C3010
Q3A1
Q3A2
2SC1740-E
R3E1
R3E2
IC3000
AN3576NFBP
R-channel
Delay
Hold Time
BPF
D.O Level
P.C.
PB RF LPF
REC RF LPF
SW Noise
VCO
Audio Limit
Exp
EK
Peak Dtc
CCA
Vref
LOGIC
Audio LPF
RF.C. Out
Line
H.P.
DC Shift
E.VOL
VR3000
VR3001
VR3002
VR3003
VR3004
TP3E
TP3F
GND
SW5
TP3N
A-FF
TP-CONT
TP3X
GND
SW-5
PB-HIFI-1
REC-HIFI
PB-HIFI-2
HC
GC
PCB-HEAD AMP
D3302
D3005
D3006
D3001
D3002
D3003
IC3001
M5223P
Q3B6
Q3B7
Q3006
Q3007
N.C
O-EXT
MIX
O-EXT-L2
I-CUE
HT
PCB-TIMER TT

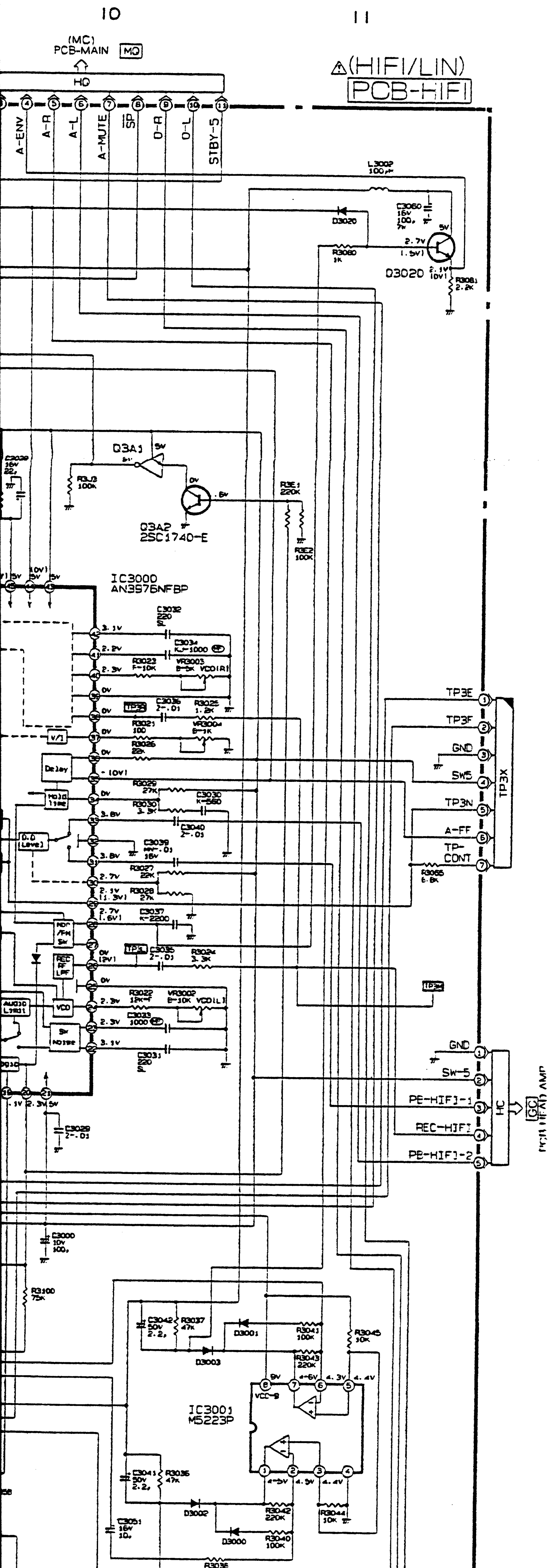
⟨HIFI/LIN⟩

All diodes are 1S
unless otherwis

All PNP transisto
2SA1309A-R.S/2S
unless otherwis

All NPN transisto
2SC3311A-R.S/2S
unless otherwis


IS
22K
22K
DTA124K

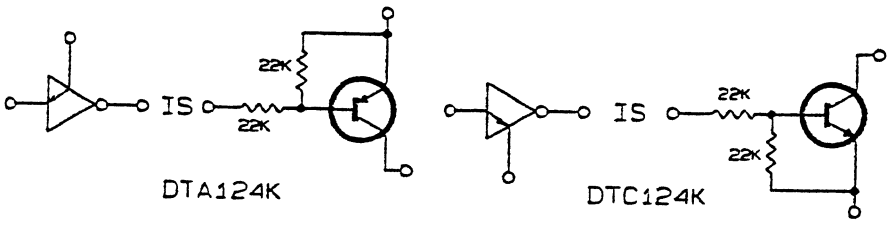

10
11
12
13
14
(MC)
PCB-MAIN
MQ
HD
△(HIFI/LIN)
PCB-HIFI
A-ENV
A-R
A-L
A-MUTE
SP
D-R
D-L
STBY-5
L3002
D3020
C3060
R3080
Q3020
R3081
Q3A1
Q3A2
2SC1740-E
R3E1 220K
R3E2 100K
IC3000
AN3576NFBP
Delay
Hold Time
D.O Level
VCO
SW NOISE
REC RF LPF
TP3E
TP3F
GND
SW5
TP3N
A-FF
TP-CONT
TP3X
GND
SW-5
PE-HIFI-1
REC-HIFI
PE-HIFI-2
HC
GC
IC3001
M5223P
D3000
D3001
D3002
D3003
R3045
R3043
R3042
R3044
R3040
R3036
R3037
C3041
C3042
C3051
C3000
R3100

〈HIFI/LIN〉

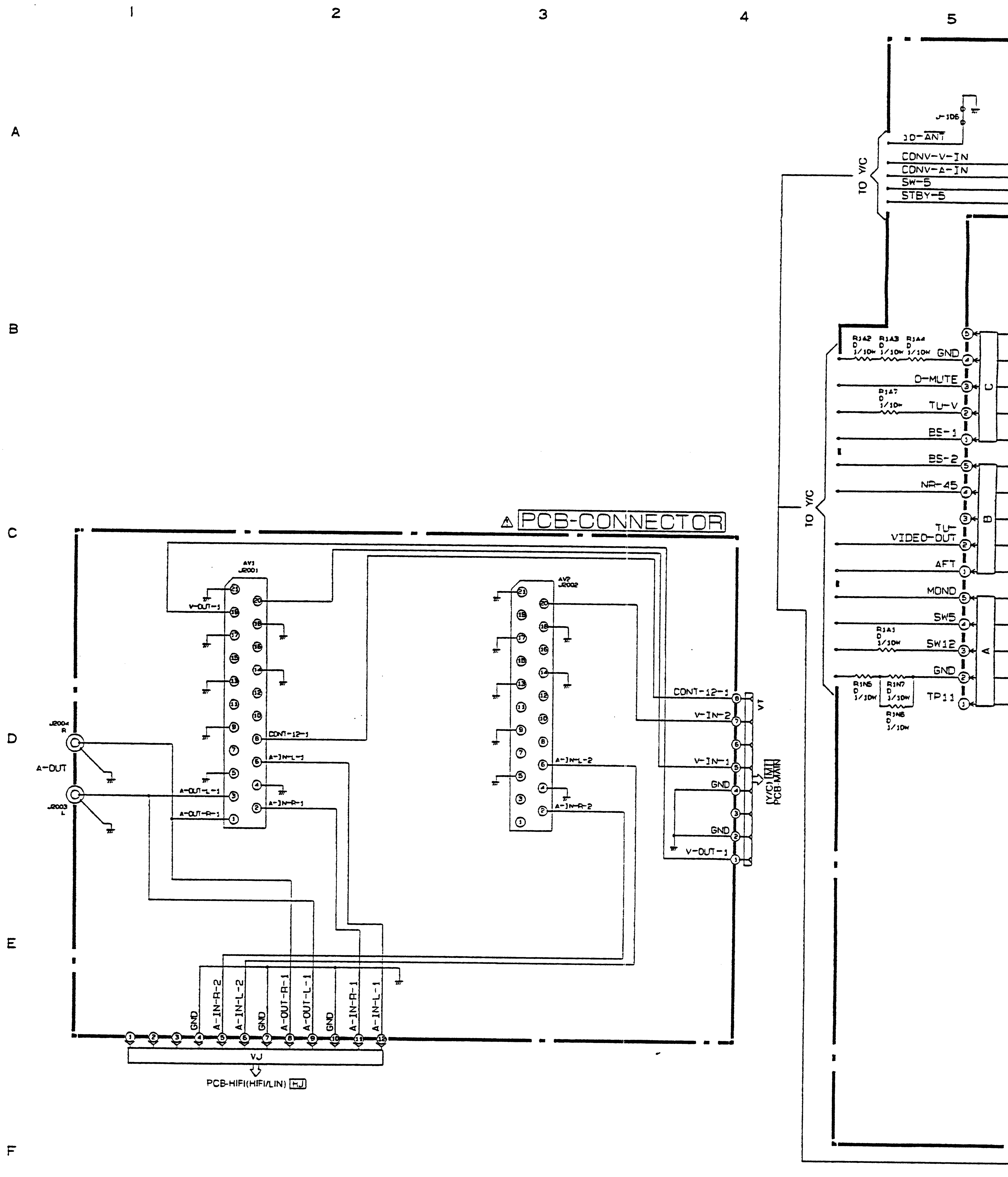
All diodes are 1SS252/1N4531
unless otherwise specified.

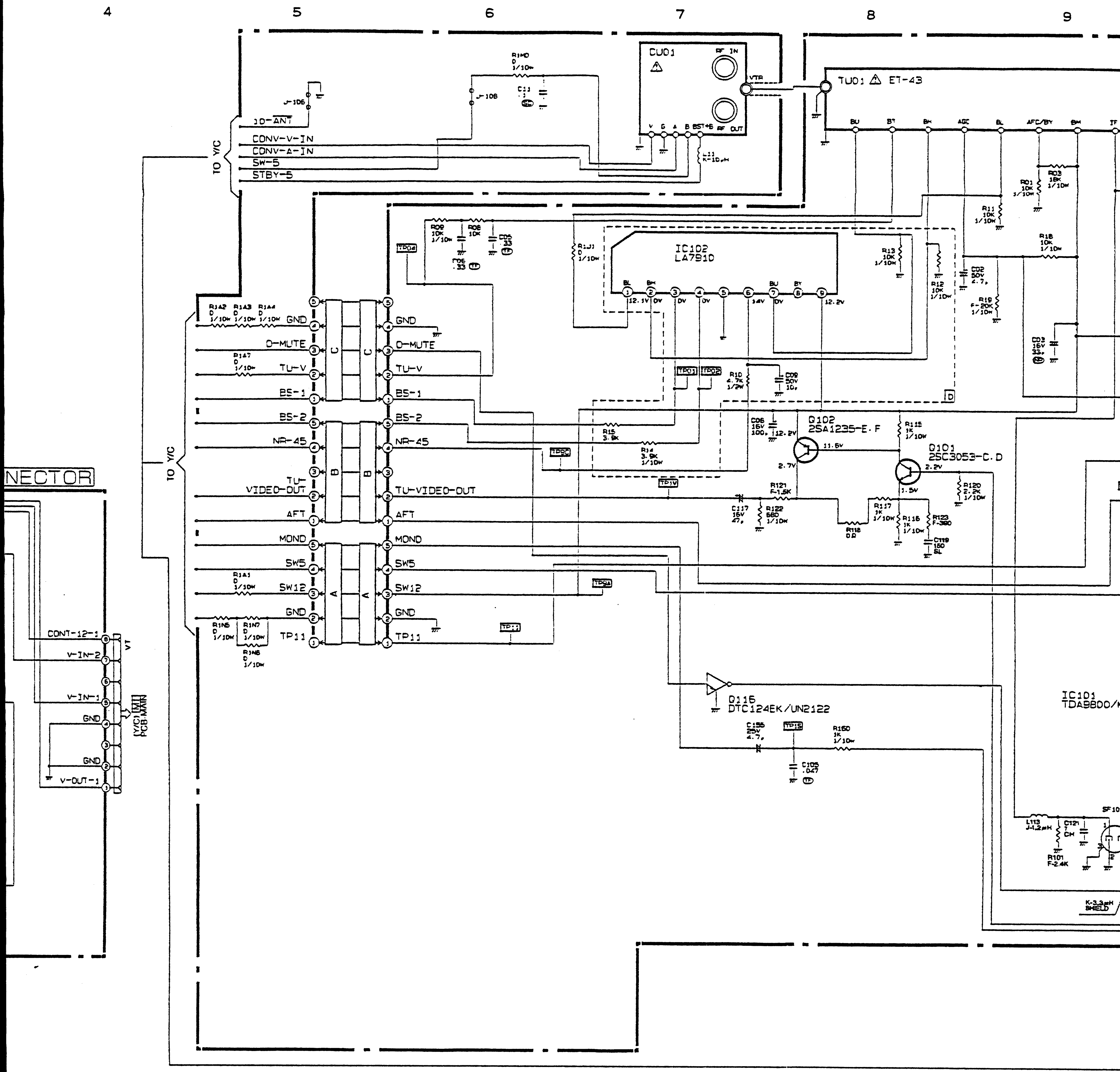
All PNP transistors are
2SA1309A-R. S/2SA933S-R. S/JA101-P. Q
unless otherwise specified.

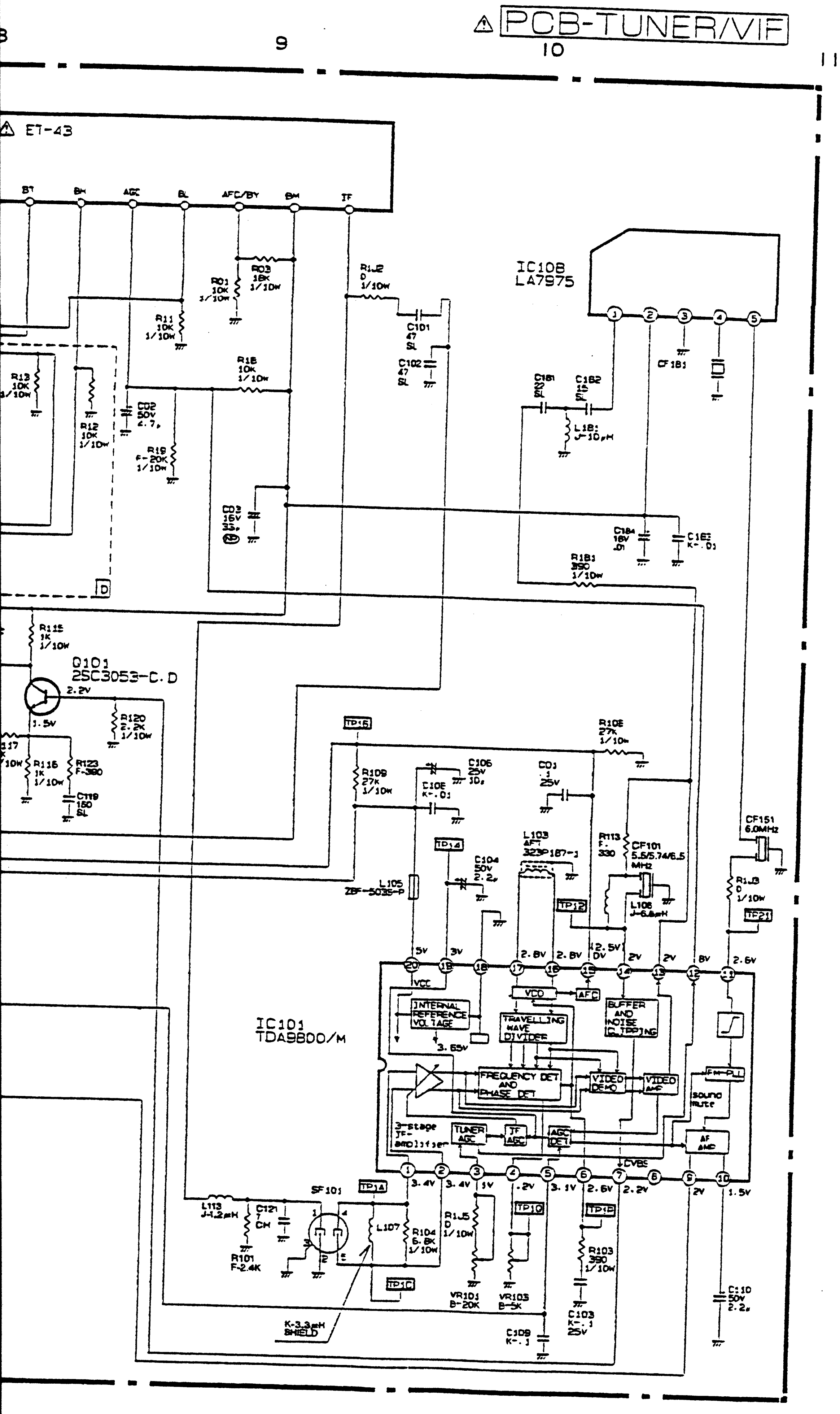
All NPN transistors are
2SC3311A-R. S/2SC1740S-R. S/JC501-P. Q
unless otherwise specified.


IS
22K
22K
IS
22K
22K

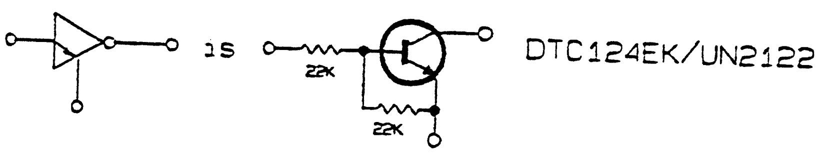
DTA124K DTC124K


1
2
3
4
5
A
B
C
D
E
F
G
⚠ PCB-CONNECTOR
AV1
J2001
V-OUT-1
CONT-12-1
A-IN-L-1
A-IN-R-1
A-OUT-L-1
A-OUT-R-1
AV2
J2002
A-IN-L-2
A-IN-R-2
J2004
R
J2003
L
A-OUT
CONT-12-1
V-IN-2
V-IN-1
GND
GND
V-OUT-1
VT
(Y/C) PCB MAIN
GND
A-IN-R-2
A-IN-L-2
GND
A-OUT-R-1
A-OUT-L-1
GND
A-IN-R-1
A-IN-L-1
VJ
PCB-HIFI(HIFI/LIN) HJ
J-106
ID-ANT
CONV-V-IN
CONV-A-IN
SW-5
STBY-5
TO Y/C
R142 R143 R144
D D D
1/10W 1/10W 1/10W
GND
D-MUTE
R147
D
1/10W
TU-V
BS-1
BS-2
NR-45
TU-
VIDEO-OUT
AFT
MONO
SW5
R141
D
1/10W
SW12
GND
TP11
R1N5
D
1/10W
R1N7
D
1/10W
R1N6
D
1/10W
C
B
A
TO Y/C

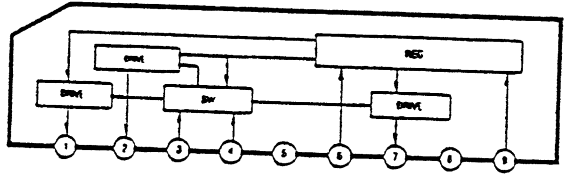
4
5
6
7
8
9
CU01
RF IN
RF OUT
VTR
V G A B BST+5
L11 K-10μH
R1H0 0 1/10W
J-106
J-108
C11
10-ANT
CONV-V-IN
CONV-A-IN
SW-5
STBY-5
TO Y/C
TU01 ⚠ ET-43
BU BT BH AGC BL AFC/BY BM TF
R01 10K 1/10W
R03 18K 1/10W
R11 10K 1/10W
R18 10K 1/10W
C02 50V 4.7μ
R19 F-20K 1/10W
C03 16V 33μ
IC102
LA7910
BL BH BU BY
12.1V 0V 0V 0V 14V 0V 12.2V
R09 10K 1/10W
R08 10K
C05 .33
C06 .33
TP04
R1J1 0 1/10W
R13 10K 1/10W
R12 10K 1/10W
R1A2 0 1/10W
R1A3 0 1/10W
R1A4 0 1/10W
R1A7 0 1/10W
R1A1 0 1/10W
R1N5 0 1/10W
R1N7 0 1/10W
R1N8 0 1/10W
GND
D-MUTE
TU-V
BS-1
BS-2
NR-45
TU-VIDEO-OUT
AFT
MONO
SW5
SW12
TP11
C
B
A
TP01
TP02
TP0C
TP1V
TP9A
TP11
R10 4.7K 1/2W
C09 50V 10μ
R15 3.9K
R14 3.9K 1/10W
C06 16V 100μ
12.2V
Q102
2SA1235-E.F
11.6V
2.7V
R115 1K 1/10W
Q101
2SC3053-C.D
2.2V
1.5V
R120 2.2K 1/10W
R121 F-1.5K
C117 16V 47μ
R122 560 1/10W
R118 0Ω
R117 1K 1/10W
R116 1K 1/10W
R123 F-390
C119 150 SL
D
Q116
DTC124EK/UN2122
C155 25V 4.7μ
TP15
R160 1K 1/10W
C105 .047
IC101
TDA9800/
SF10
L113 J-1.2μH
C121 7 CH
R101 F-2.4K
K-3.3μH SHIELD
NECTOR
CONT-12-1
V-IN-2
V-IN-1
GND
GND
V-OUT-1
VT
(Y/C)[VT] PCB-MAIN

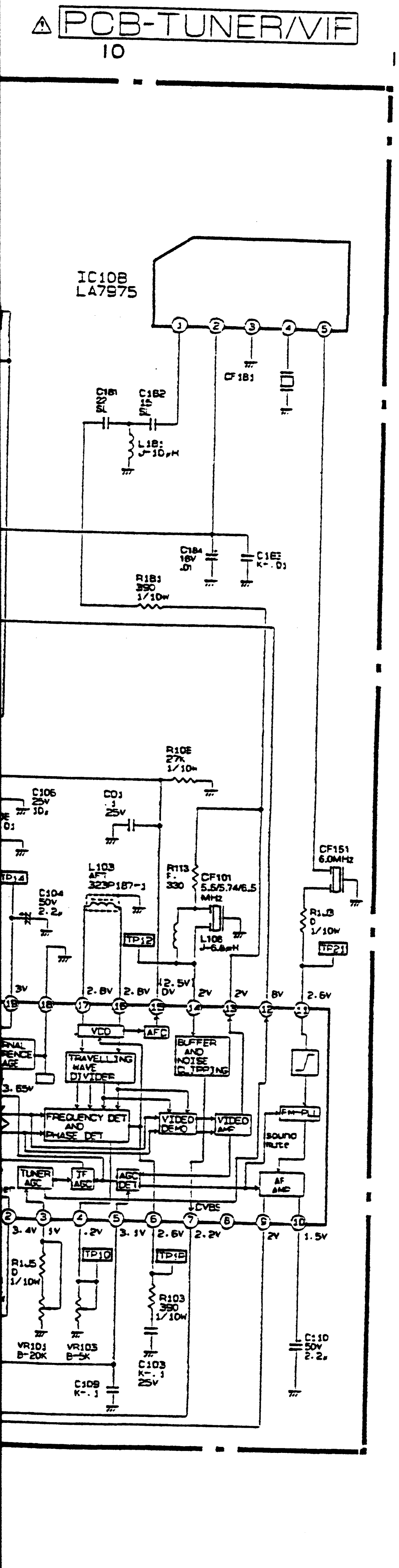

PCB-TUNER/VIF
9
10
11
ET-43
BT
BH
AGC
BL
AFC/BY
BM
IF
IC108
LA7975
IC101
TDA9800/M
Q101
2SC3053-C.D
SF101
CF101
5.5/5.74/6.5 MHz
CF151
6.0MHz
L103
AFT
323P187-1
L105
ZBF-5035-P
L106
L107
L113
L181
R101 F-2.4K
R103 390 1/10W
R104 6.8K 1/10W
R105 0 1/10W
R108 27K 1/10W
R109 27K 1/10W
R113 F. 330
R115 1K 1/10W
R116 1K 1/10W
R120 2.2K 1/10W
R123 F-390
R181 390 1/10W
VR101 B-20K
VR103 B-5K
K-3.3μH SHIELD
INTERNAL REFERENCE VOLTAGE
VCO
AFC
BUFFER AND NOISE CLIPPING
TRAVELLING WAVE DIVIDER
FREQUENCY DET AND PHASE DET
VIDEO DEMO
VIDEO AMP
FM-PLL
SOUND MUTE
3-stage IF-amplifier
TUNER AGC
IF AGC
AGC DET
AF AMP
CVBS
TP11
TP12
TP14
TP15
TP1A
TP1B
TP1C
TP1D
TP21
12
13

All PNP transistors are 2SA1235-E.F
unless otherwise specified.

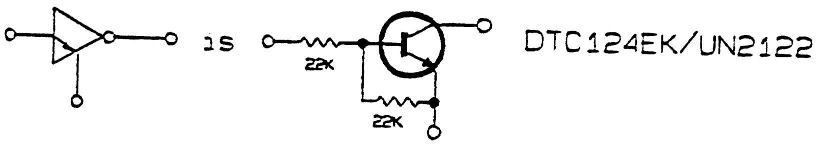

is
22K
22K
DTC124EK/UN2122

IC102 LA7910

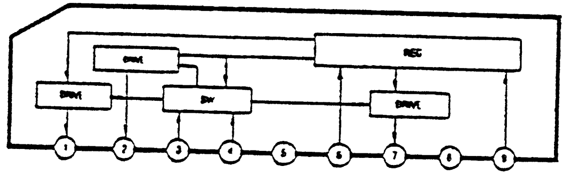

REC
DRIVE
SW

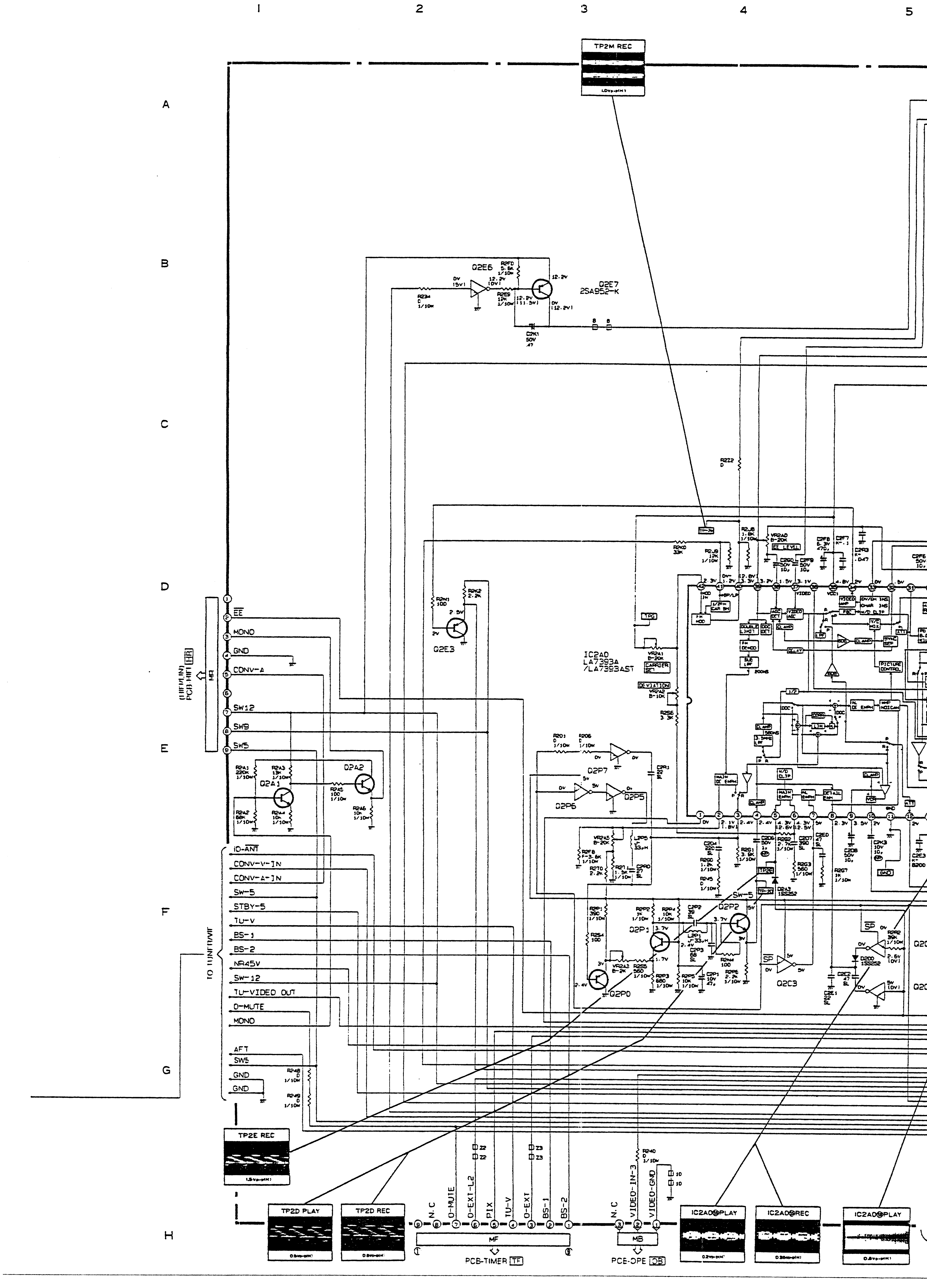

PCB-TUNER/VIF
10
11
12
13
14
IC108
LA7975
CF181
C181
C182
L181
R181
390
1/10W
C184
16V
.01
C183
R108
27K
1/10W
C106
25V
10μ
C01
25V
C104
50V
2.2μ
L103
AFT
323P187-1
TP12
R113
330
CF101
5.5/5.74/6.5 MHz
L106
J-6.8μH
CF151
6.0MHz
R118
1/10W
TP21
3V
2.8V
2.8V
2.5V
0V
2V
2V
8V
2.6V
VCO
AFC
TRAVELLING WAVE DIVIDER
BUFFER AND NOISE CLIPPING
FREQUENCY DET AND PHASE DET
VIDEO DEMO
VIDEO AMP
FM-PLL
SOUND MUTE
TUNER AGC
IF AGC
AGC DET
AF AMP
CVBS
3.65V
3.4V
1V
.2V
3.1V
2.6V
2.2V
2V
1.5V
TP10
TP19
R115
1/10W
R103
390
1/10W
VR101
B-20K
VR103
B-5K
C103
25V
C108
C110
50V
2.2μ

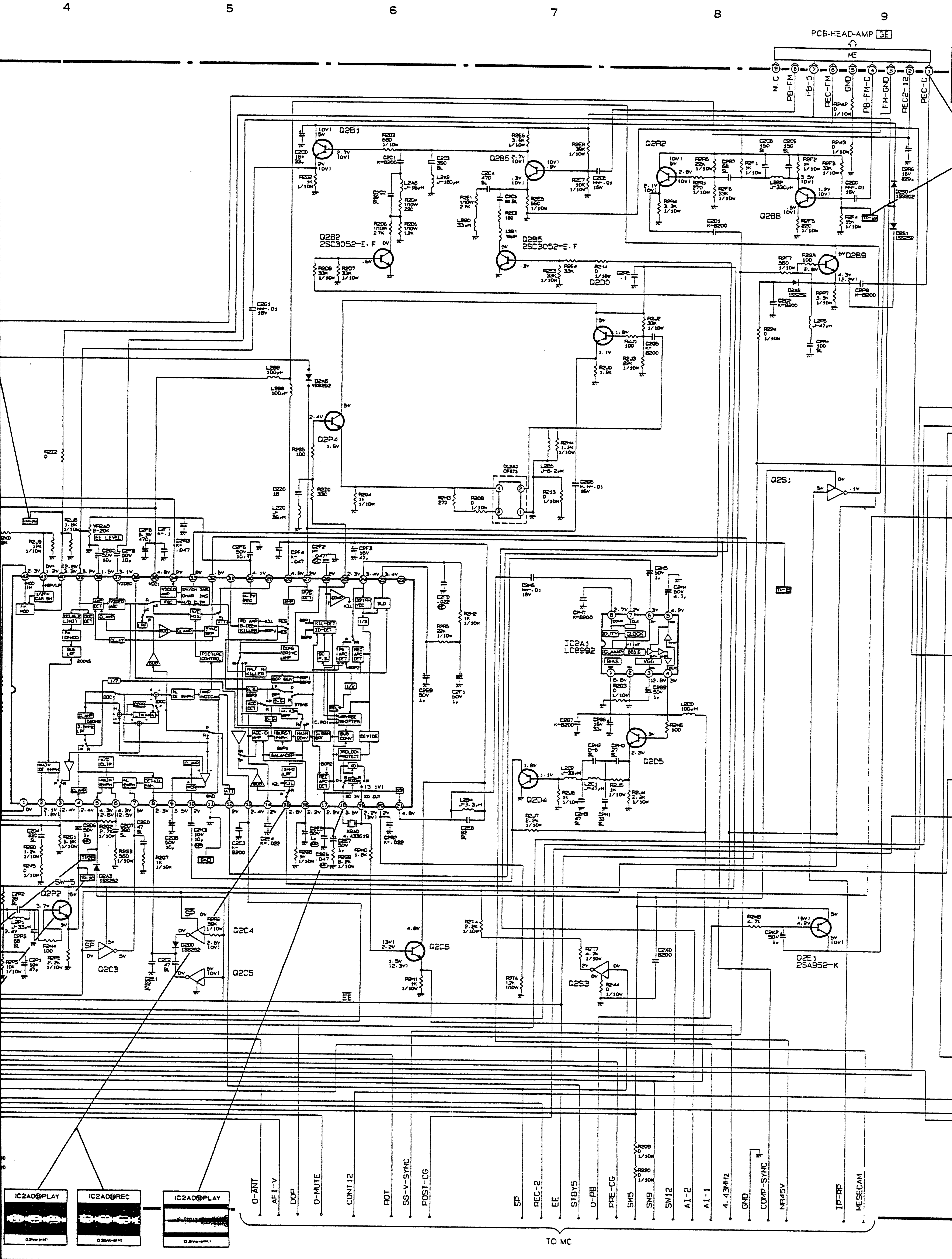
All PNP transistors are 2SA1235-E.F unless otherwise specified.

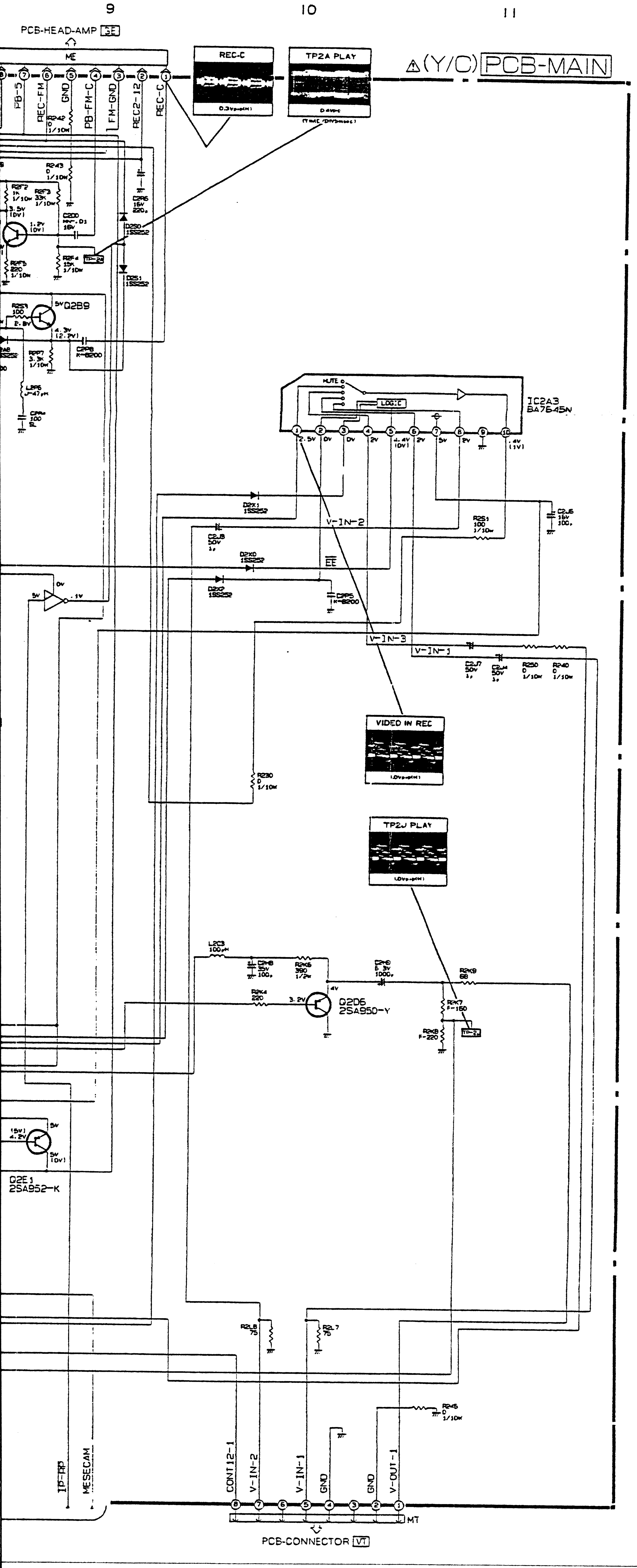

is
22K
22K
DTC124EK/UN2122

IC102 LA7910


REC
1
2
3
4
5
6
7
8
9


1
2
3
4
5
A
B
C
D
E
F
G
H
TP2M REC
Q2E6
R2FD 5.6K 1/10W
Q2E7 2SA952-K
R234 D 1/10W
R2E9 12K 1/10W
C2K1 50V .47
R2Z2 D
IC2A0 LA7393A /LA7393AST
VR2A1 B-20K CARRIER SET
DEVIATION VR2A2 B-10K
R2S6 3.3K
R2K0 33K
R2J9 12K 1/10W
R2J8 1.8K 1/10W
VR2A0 B-20K EE LEVEL
C2G0 50V 10μ
C2F9 50V 10μ
C2F8 6.3V 470μ
C2F7
C2F6 50V 10μ
R2N1 100
R2K2 2.2K
Q2E3
EE
MONO
GND
CONV-A
SW12
SW9
SW5
(HIFI UNIT) PCB HIFI HR
MH
Q2A1
Q2A2
R2A1 220K 1/10W
R2A3 13K 1/10W
R2A2 68K 1/10W
R2A4 10K 1/10W
R2A5 100 1/10W
R2A6 10K 1/10W
R201 D 1/10W
R206 D 1/10W
Q2P7
Q2P6
Q2P5
C2R1 22
VR2A5 B-20K
R2F8 F-3.6K 1/10W
R2T0 2.2K
R211 1.5K 1/10W
L2P5 33μH
C2R0 27 SL
C204 22C SL
R2G0 1.2K 1/10W
R245 D 1/10W
R2G1 3.9K 1/10W
C206 50V 1μ
R2G2 2.7K 1/10W
C207 390 SL
C2E0 47 SL
R2G3 560 1/10W
Q2A3 1SS252
C208 50V 10μ
R2G7 1K 1/10W
C2K3 10V 10μ
C2E3 B200
TP2E
SW-5
Q2P2
Q2P1
Q2P0
R2P1 390 1/10W
R254 100
R2P2 1K 1/10W
R2P4 10K 1/10W
C2P2 39 SL
L2P1 33μH
C2P3 68 SL
R2N4 100
VR2A3 B-2K
R255 560 1/10W
R2P3 680 1/10W
R2P5 10K 1/10W
C2P1 10V 47μ
R2P6 2.2K 1/10W
SP
Q2C3
R2R2 39K 1/10W
D200 1SS252
C2C2 47 SL
R2E1
IO-ANT
CONV-V-IN
CONV-A-IN
SW-5
STBY-5
TU-V
BS-1
BS-2
NR45V
SW-12
TU-VIDEO OUT
D-MUTE
MONO
TO TUNER UNIT
AFT
SW5
GND
GND
R248 D 1/10W
R249 D 1/10W
TP2E REC
1.5Vp-p(H)
TP2D PLAY
TP2D REC
N.C
D-MUTE
D-EXT-L2
PIX
TU-V
D-EXT
BS-1
BS-2
MF
PCB-TIMER TF
Z2
Z3
R240 D 1/10W
N.C
VIDEO-IN-3
VIDEO-GND
MB
PCB-OPE OB
10
IC2A0 PLAY
IC2A0 REC
IC2A0 PLAY
0.8Vp-p(H)


4
5
6
7
8
9
PCB-HEAD-AMP
ME
N C
PB-FM
PB-5
REC-FM
GND
PB-FM-C
FM-GND
REC2-12
REC-C
Q2B1
Q2B5
Q2R2
Q2B8
Q2B9
Q2B2
2SC3052-E.F
Q2B5
2SC3052-E.F
Q2D0
Q2P4
DL2A0
CF873
Q2S1
IC2A1
LC8992
DUTY
CLOCK
CLAMP
BIAS
VGG
Q2D5
Q2D4
Q2P2
Q2C3
Q2C4
Q2C5
Q2C8
Q2S3
Q2E1
2SA952-K
X2AD
4.433619
EE LEVEL
VR2AD
B-20K
TP-2H
TP-2F
TP-2G
TP-2A
Sw-5
D2A3
1SS252
D200
1SS252
D2A5
1SS252
D2S0
1SS252
D2S1
1SS252
D2A8
1SS252
SP
EE
GND
IC2AD⑱PLAY
0.2Vp-p(H)
IC2AD⑱REC
0.35Vp-p(H)
IC2AD⑱PLAY
0.8Vp-p(H)
O-ANT
AFI-V
DOP
O-MUTE
CONT12
ROT
SS-V-SYNC
POST-CG
SP
REC-2
EE
STBY5
O-PB
PRE-CG
SW5
SW9
SW12
AI-2
AI-1
4.43MHz
GND
COMP-SYNC
NR45V
TP-RP
MESECAM
R209
R220
TO MC

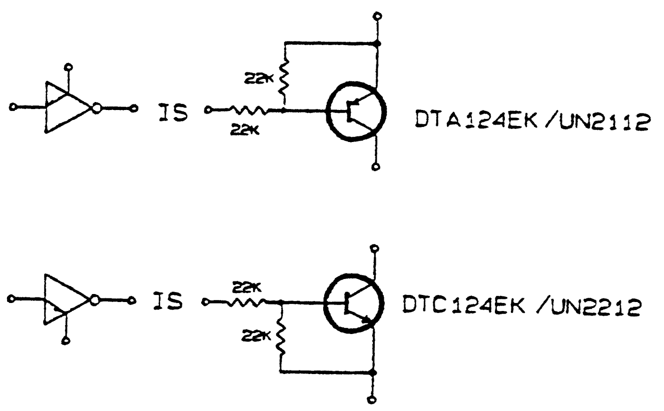

9
10
11
12
13
PCB-HEAD-AMP GE
ME
PB-5
REC-FM
GND
PB-FM-C
FM-GND
REC2-12
REC-C
R242 0 1/10W
REC-C
0.3Vp-p(H)
TP2A PLAY
0.4Vp-p
⚠(Y/C) PCB-MAIN
R243 0 1/10W
R2F2 1K 1/10W
R2F3 33K 1/10W
3.5V (0V)
1.2V (0V)
C2D0 16V
C2R6 16V 220μ
D250 1SS252
D251 1SS252
R2F4 15K 1/10W
TP-2A
R2F5 220 1/10W
R259 100
Q2B9
2.8V
4.3V (2.2V)
R2P7 3.3K 1/10W
C2P8 K-8200
L2P6 J-47μH
100p
IC2A3 BA7645N
MUTE
LOGIC
2.5V
0V
0V
2V
1.4V (0V)
2V
5V
2V
4V (1V)
D2X1 1SS252
V-IN-2
C2J6 16V 100μ
R2S1 100 1/10W
C2J8 50V 1μ
D2X0 1SS252
EE
D2XP 1SS252
C2P5 K-8200
0V
5V
1V
V-IN-3
V-IN-1
C2J7 50V 1μ
C2J4 50V 1μ
R250 0 1/10W
R240 0 1/10W
VIDEO IN REC
1.0Vp-p(H)
R230 0 1/10W
TP2J PLAY
1.0Vp-p(H)
L2C3 100μH
C2H8 35V 100μ
R2K6 390 1/2W
C2H0 6.3V 1000μ
R2K9 68
R2K4 220
3.2V
4V
Q2D6 2SA950-Y
R2K7 F-150
R2K8 F-220
TP-2J
5V
(5V) 4.2V
5V (0V)
Q2E1 2SA952-K
R2L8 75
R2L7 75
R2K5 0 1/10W
IP-RP
MESECAM
CONT12-1
V-IN-2
V-IN-1
GND
GND
V-OUT-1
MT
PCB-CONNECTOR VT

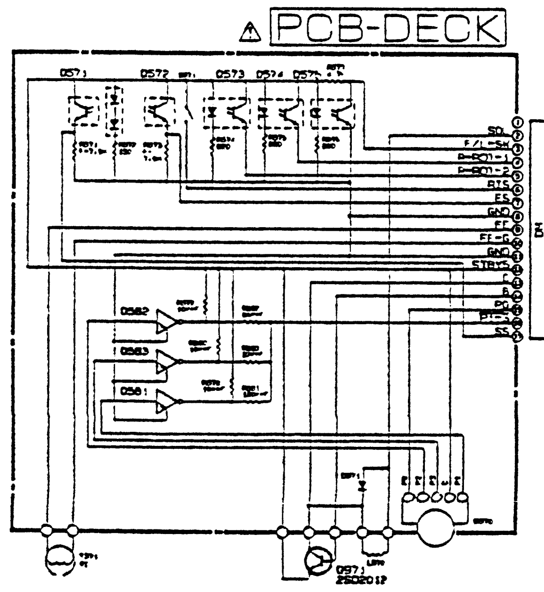
(Y/C)

All NPN transistors are 2SC3053-C.D unless otherwise specified.

All PNP transistors are 2SA1235-E.F unless otherwise specified.

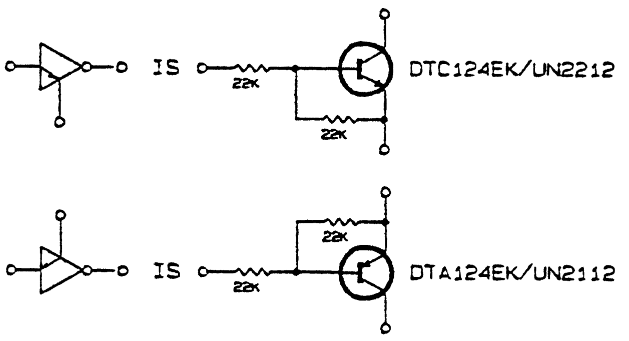
All diodes are 1SS252/1SS131 unless otherwise specified.

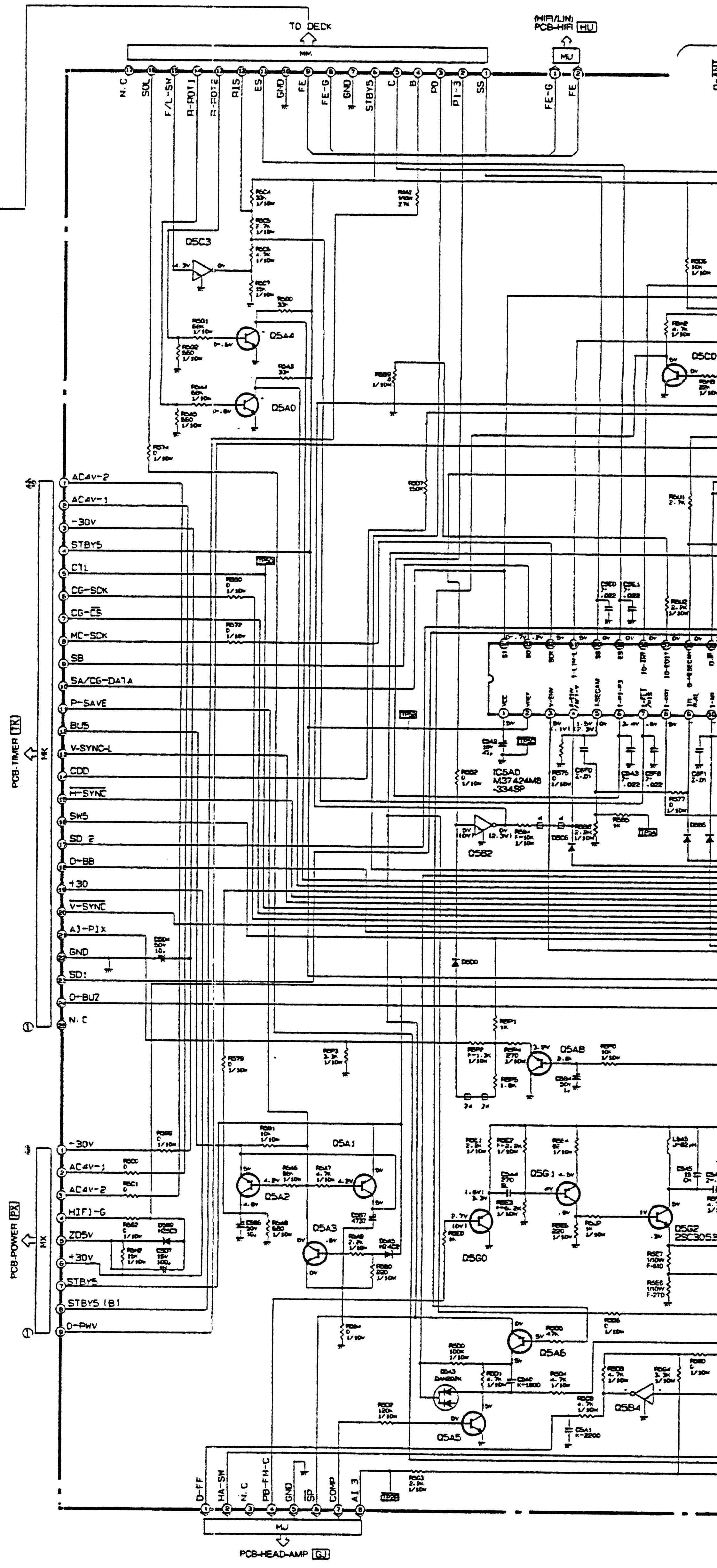

IS
22K
22K
DTA124EK/UN2112
IS
22K
22K
DTC124EK/UN2212

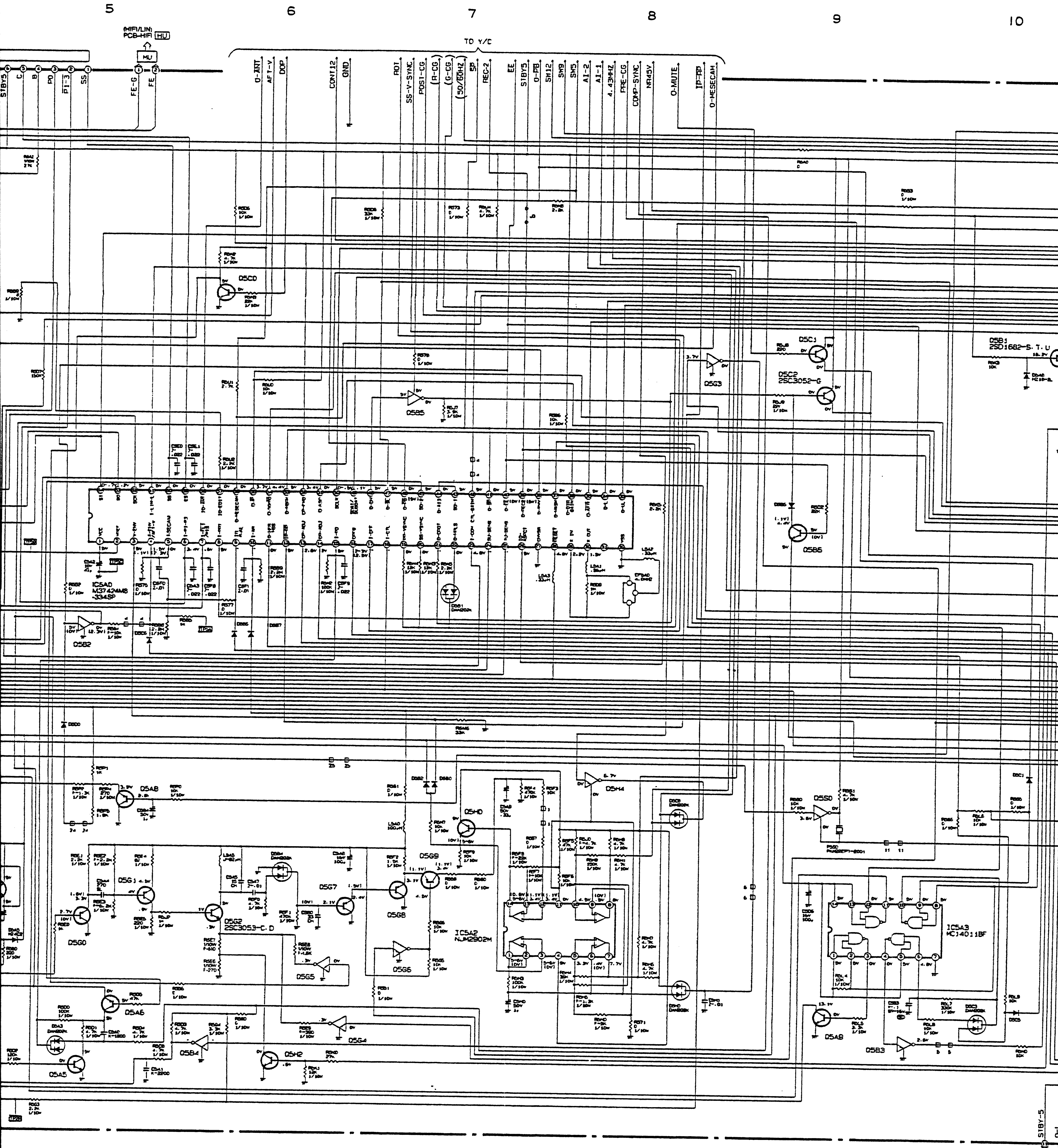

PCB-DECK
Q97 2SD2012

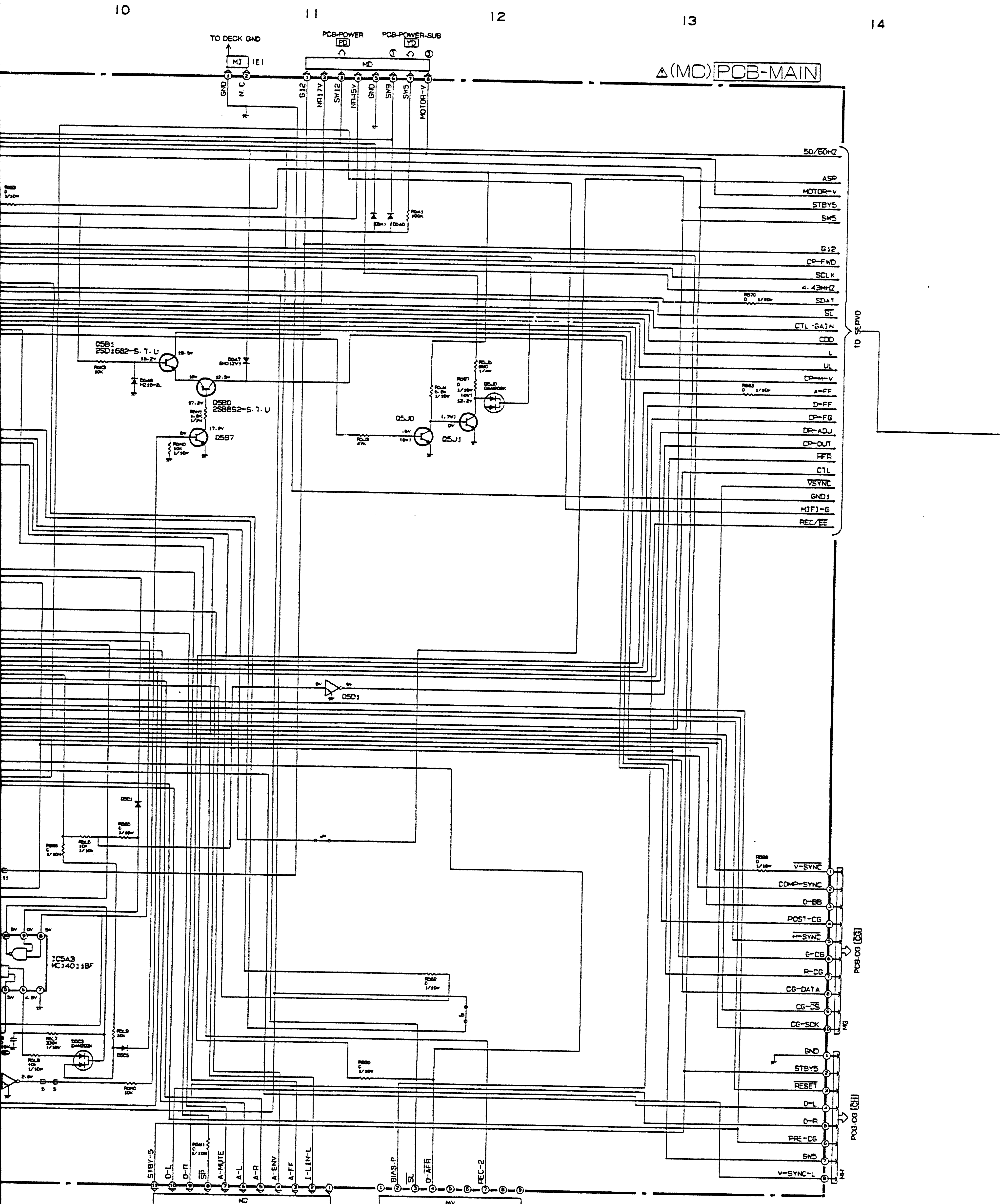
(MC)

All diodes are 1SS252/1SS131 unless otherwise specified.
All NPN transistors are 2SC3052-E.F
unless otherwise specified.
All PNP transistors are 2SA1235-E.F
unless otherwise specified.

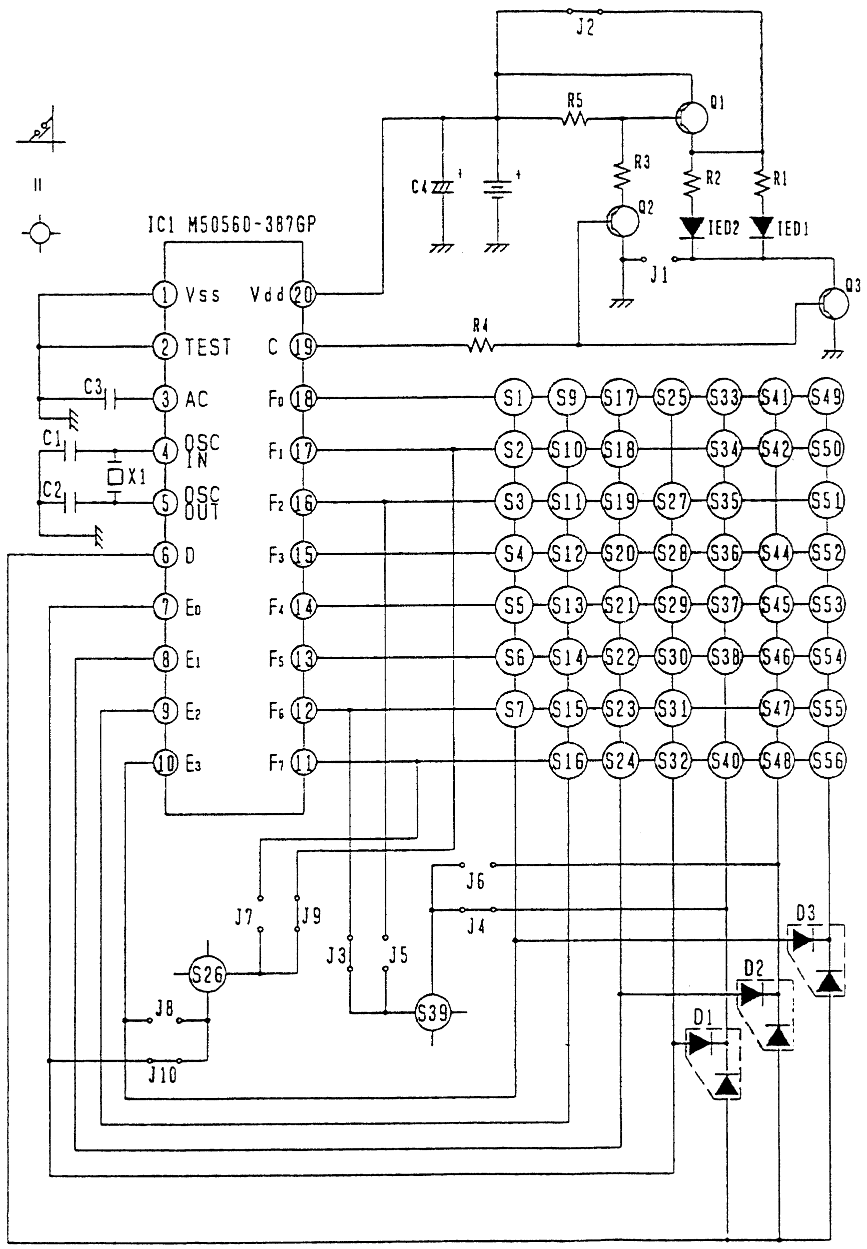

IS
22K
22K
DTC124EK/UN2212
IS
22K
22K
DTA124EK/UN2112


TO DECK
(HIFI/LIN)
PCB-HIFI HU
MU
MH
N.C
SOL
F/L-SW
R-POT1
R-POT2
RIS
ES
GND
FE
FE-G
GND
STBY5
C
B
PO
PI-3
SS
FE-G
FE
Q5C3
Q5A4
Q5A0
Q5C0
PCB-TIMER TK
MK
AC4V-2
AC4V-1
-30V
STBY5
CTL
CG-SCK
CG-CS
MC-SCK
SB
SA/CG-DATA
P-SAVE
BUS
V-SYNC-L
CDD
H-SYNC
SW5
SD 2
D-BB
+30
V-SYNC
AJ-PIX
GND
SD1
D-BUZ
N.C
IC5A0
M37424M8
-334SP
Q5B2
Q5A8
PCB-POWER PX
MX
-30V
AC4V-1
AC4V-2
HIFI-G
ZD5V
+30V
STBY5
STBY5 (B)
D-PWV
Q5A1
Q5A2
Q5A3
Q5G1
Q5G0
Q5G2
2SC3053
Q5A6
Q5A5
Q5B4
D-FF
HA-SW
N.C
PB-FM-C
GND
SP
COMP
AI 3
MJ
PCB-HEAD-AMP GJ

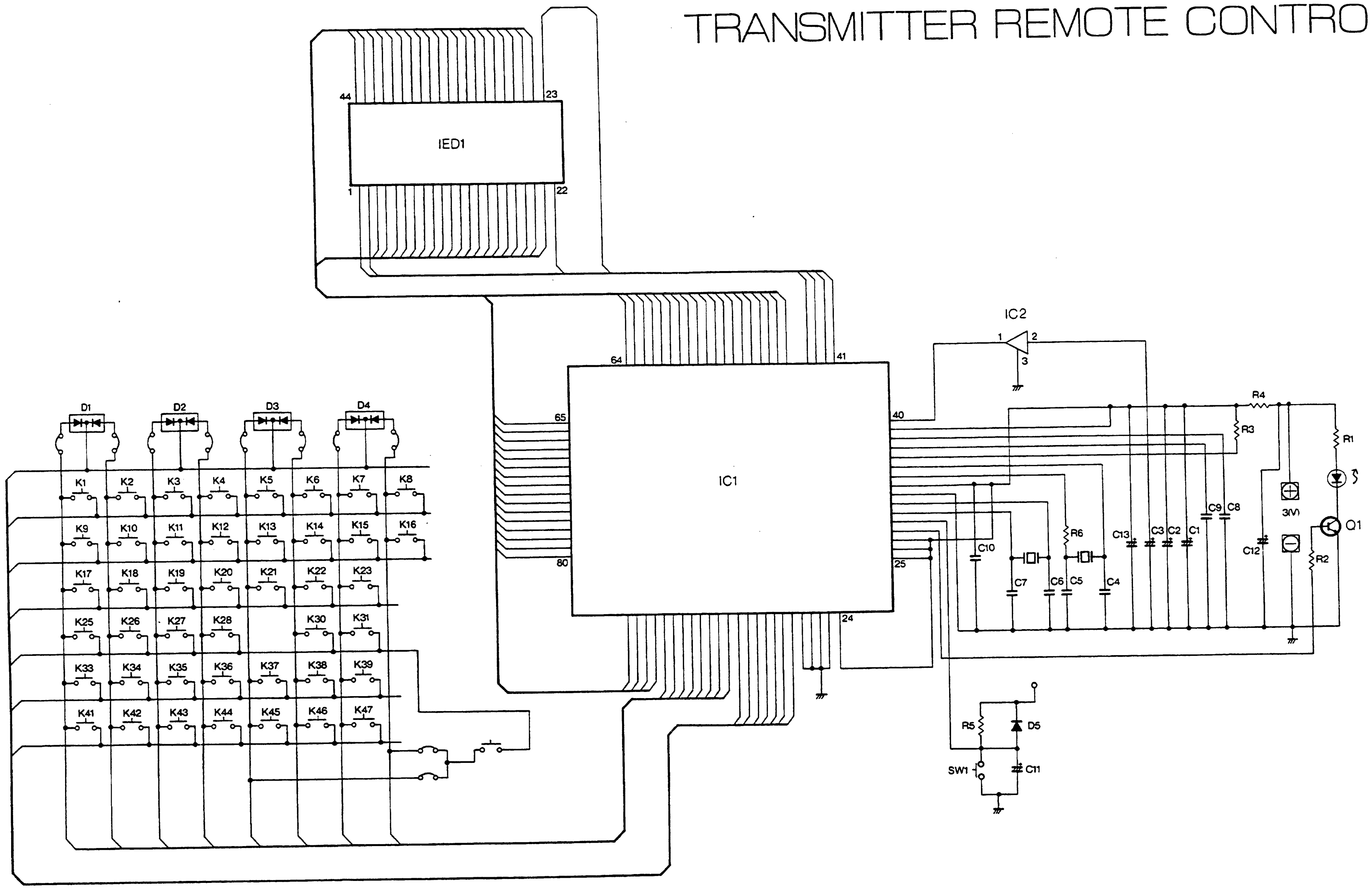

5
6
7
8
9
10
(HIFI/LIN)
PCB-HIFI HU
MU
STBY5
C
B
PO
PI-3
SS
FE-G
FE
TO Y/C
O-ANT
AFT-V
DOP
CONT12
GND
ROT
SS-V-SYNC
POST-CG
(R-CG)
(G-CG)
(50/60HZ)
SP
REC-2
EE
STBY5
O-PB
SW12
SW9
SW5
AI-2
AI-1
4.43MHZ
PRE-CG
COMP-SYNC
NR45V
O-MUTE
IP-RP
O-MESECAM
Q5C0
Q5B5
Q5G3
Q5C1
Q5C2
2SC3052-G
Q5B1
2SD1682-S.T.U
Q5B6
IC5A0
M37424M8
-334SP
D5B1
Q5B2
Q5A8
Q5H0
Q5H4
Q5G9
Q5G1
Q5G7
Q5G8
Q5G2
2SC3053-C.D
Q5G0
Q5G6
Q5G5
IC5A2
NJM2902M
Q5S0
P5S0
IC5A3
HCJ4011BF
Q5A6
Q5A5
Q5B4
Q5H2
Q5G4
Q5A9
Q5B3
STBY-5


10
11
12
13
14
TO DECK GND
MJ (E)
GND
N.C
PCB-POWER PD
PCB-POWER-SUB YD
MD
G12
NR17V
SW12
NR45V
GND
SW9
SW5
MOTOR-V
(MC) PCB-MAIN
50/60HZ
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHZ
R570 0 1/10W
SDAT
SL
CTL-GAIN
CDD
L
UL
CP-M-V
R583 0 1/10W
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
HFR
CTL
VSYNC
GND1
HIFI-G
REC/EE
TO SERVO
Q581
2SD1682-S.T.U
R5K3 10K
D5A8 HZ18-2L
D547 EXO12V1
Q580
2SB852-S.T.U
R5M1 1.8K 1/2W
Q587
R5N0 10K 1/10W
Q5J0
Q5J1
R5J8 47K
R5M 6.8K 1/10W
R587 0 1/10W
R5J5 880
D5J0 DAN202K
Q5D1
D5C1
IC5A3
MC14011BF
D5C3 DAN202K
D5C5
R5N0 10K
J5
R582 0 1/10W
R586 0 1/10W
R581 0 1/10W
R588 0 1/10W
V-SYNC
COMP-SYNC
D-BB
POST-CG
H-SYNC
G-CG
R-CG
CG-DATA
CG-CS
CG-SCK
MG
PCB-CG CG
GND
STBY5
RESET
O-L
O-R
PRE-CG
SW5
V-SYNC-L
MH
PCB-CG CH
STBY-5
O-L
O-R
SP
A-MUTE
A-L
A-R
A-ENV
A-FF
I-LIN-L
MC
PCB-HIFI HQ
(HIFI/LIN)
BIAS-P
SL
O-AFR
REC-2
MV
PCB-HIFI HV
(HIFI/LIN)

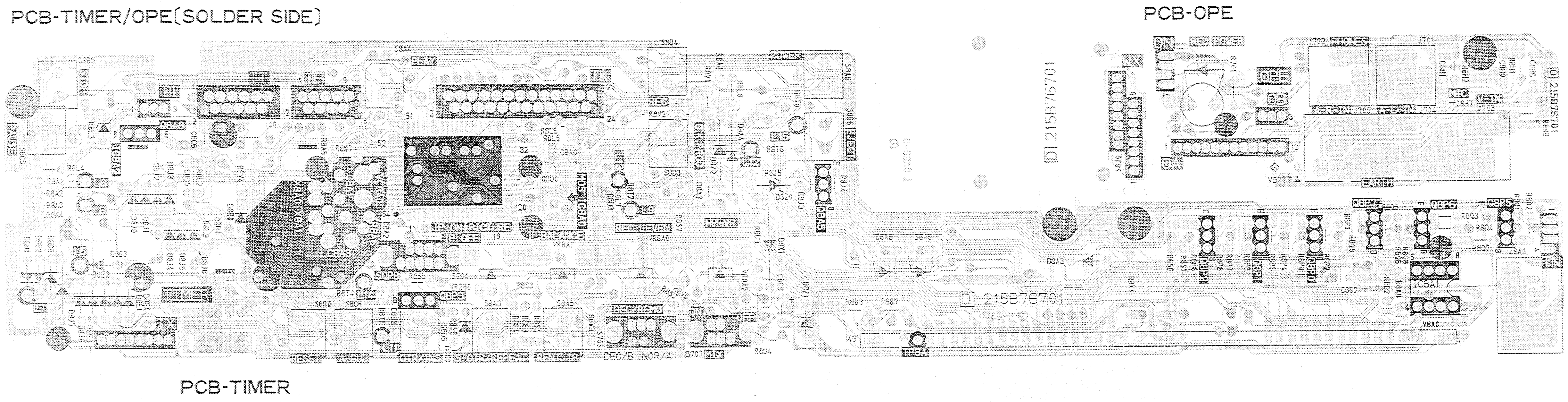
TRANSMITTER REMOTE CONTROL


J2
R5
Q1
R3
C4
Q2
R2
R1
IED2
IED1
J1
Q3
IC1 M50560-387GP
1 Vss
2 TEST
3 AC
4 OSC IN
5 OSC OUT
6 D
7 E0
8 E1
9 E2
10 E3
Vdd 20
C 19
F0 18
F1 17
F2 16
F3 15
F4 14
F5 13
F6 12
F7 11
R4
C3
C1
C2
X1
S1 S9 S17 S25 S33 S41 S49
S2 S10 S18 S34 S42 S50
S3 S11 S19 S27 S35 S51
S4 S12 S20 S28 S36 S44 S52
S5 S13 S21 S29 S37 S45 S53
S6 S14 S22 S30 S38 S46 S54
S7 S15 S23 S31 S47 S55
S16 S24 S32 S40 S48 S56
J6
J4
J7
J9
J3
J5
S26
S39
J8
J10
D1
D2
D3

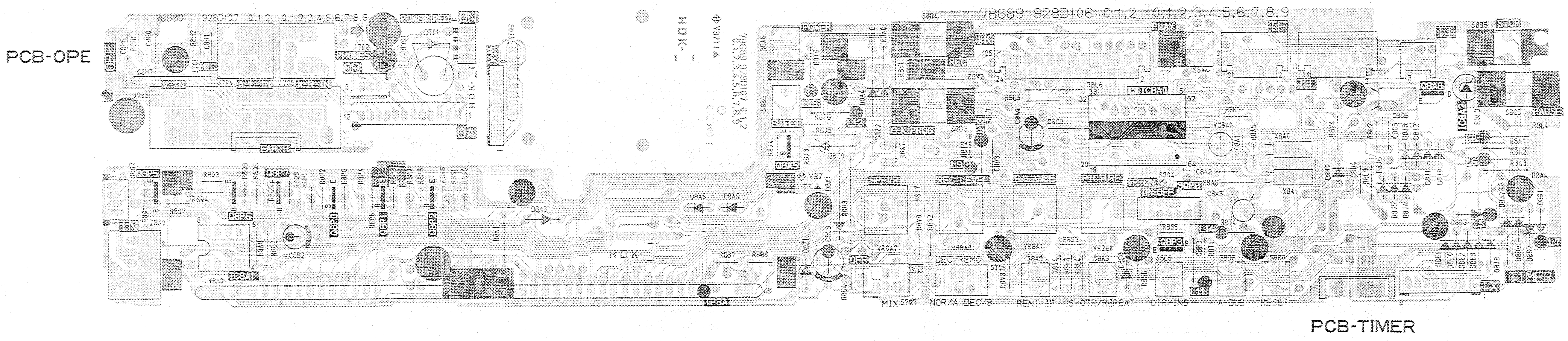
TRANSMITTER REMOTE CONTROL


IED1
44
23
1
22
IC1
64
41
65
40
80
25
24
IC2
1
2
3
D1
D2
D3
D4
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
K11
K12
K13
K14
K15
K16
K17
K18
K19
K20
K21
K22
K23
K25
K26
K27
K28
K30
K31
K33
K34
K35
K36
K37
K38
K39
K41
K42
K43
K44
K45
K46
K47
R4
R3
R1
R6
C10
C7
C6
C5
C4
C13
C3
C2
C1
C9
C8
C12
3(V)
Q1
R2
R5
D5
SW1
C11

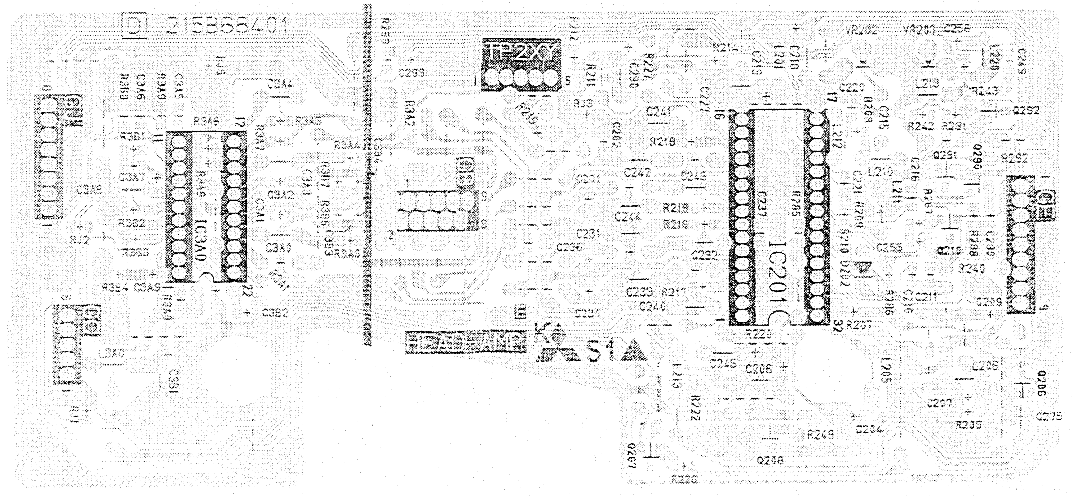
PCB-TIMER/OPE〔SOLDER SIDE〕


PCB-OPE
PCB-TIMER
215B76701

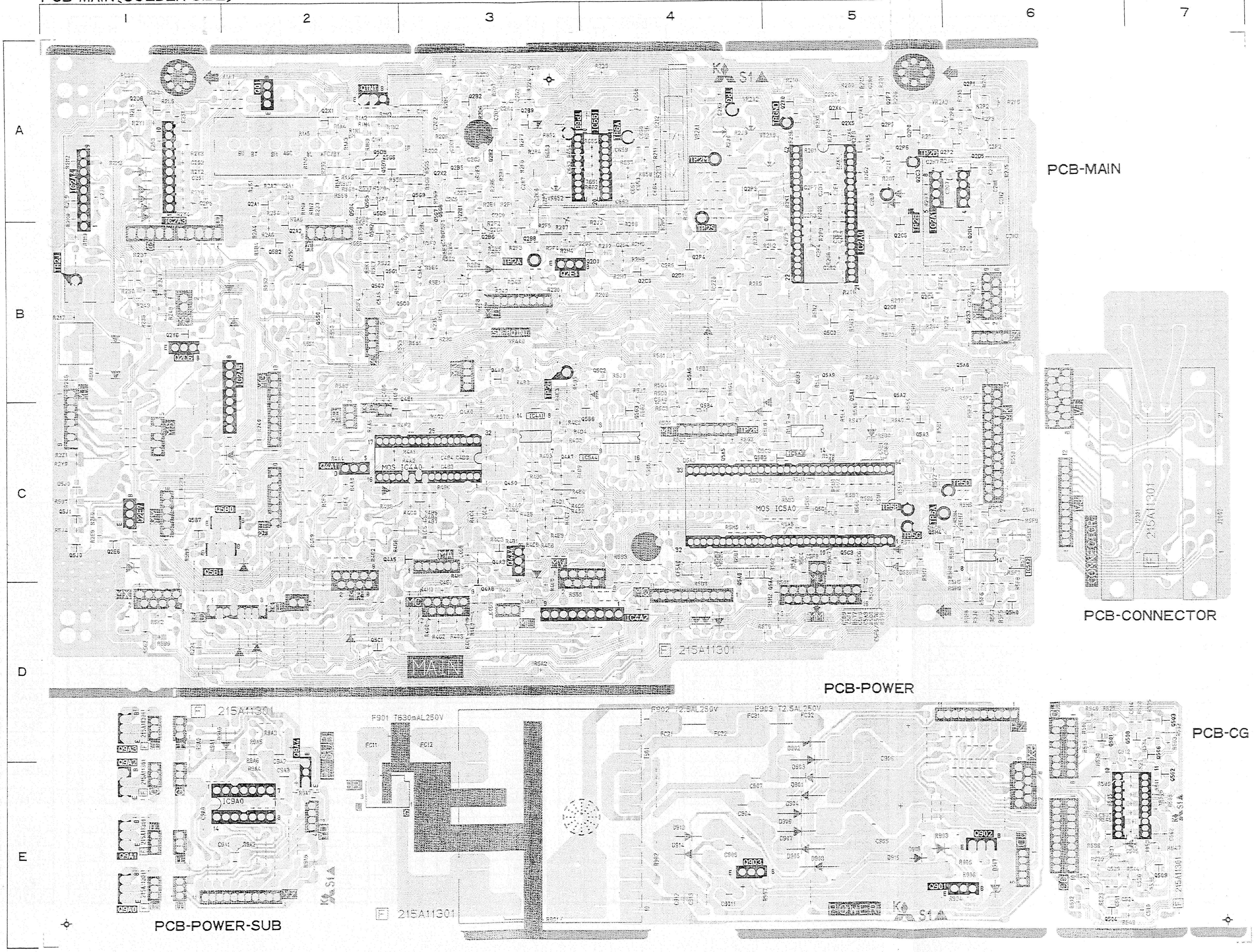
PCB-TIMER/OPE〔COMPONENT SIDE〕


PCB-OPE
PCB-TIMER
7B689 928D106 0.1.2 0.1.2.3.4.5.6.7.8.9
MIX S707 NOR/A DEC/B RENT. IP S-OTR/REPEAT O1RAINS A-DUB RESET

PCB-HEAD-AMP


215B66401
TP2X1
IC201
IC3A0

PCB-MAIN(SOLDER SIDE)


1
2
3
4
5
6
7
A
B
C
D
E
PCB-MAIN
PCB-CONNECTOR
PCB-POWER
PCB-CG
PCB-POWER-SUB
MOS IC4A0
MOS IC5A0
IC9A0
MAIN
215A11301
FS01 T630mAL250V
FS02 T2.5AL250V
FS03 T2.5AL250V

PCB-MAIN〔SOLDER SIDE〕

SYMBOL NO.	ADDRESS
C501	E – 7
C502	E – 7
C505	E – 6
C507	E – 6
C510	E – 7
C511	E – 6
C512	D – 6
C514	D – 6
C524	E – 6
C525	E – 7
C528	E – 7
C529	E – 6
C653	A – 3
C656	A – 4
C659	A – 4
C660	A – 4
C661	A – 4
C662	A – 4
C663	A – 4
C664	A – 4
C904	E – 4
C905	E – 5
C906	E – 5
C907	E – 4
C909	E – 4
C912	E – 4
C913	E – 4
C9011	E – 4
C1M1	A – 3
C1N1	A – 2
C2C1	A – 3
C2C2	A – 3
C2C3	A – 3
C2C4	B – 3
C2C5	A – 3
C2C8	A – 3
C2C9	A – 3
C2D1	A – 3
C2D2	A – 3
C2D4	A – 5
C2D7	A – 5
C2E0	A – 5
C2E1	A – 5
C2E3	B – 5
C2E4	B – 5
C2F4	B – 5
C2F5	B – 5
C2F7	A – 5
C2G4	B – 4
C2G5	B – 3
C2G7	A – 5
C2H0	A – 6
C2H1	A – 6
C2H2	A – 6
C2H3	B – 6
C2H7	A – 5
C2J9	A – 1
C2P2	A – 6
C2P3	A – 6
C2P5	A – 1

SYMBOL NO.	ADDRESS
C2P8	B – 3
C2R0	A – 5
C2R1	A – 5
C2R2	B – 5
C2R3	B – 5
C2R4	A – 3
C2R5	B – 4
C2R7	A – 3
C2S1	A – 1
C2S2	A – 1
C2S3	A – 1
C2X0	B – 6
C2X4	A – 5
C2X9	A – 4
C2Z0	B – 4
C4A0	C – 3
C4B3	C – 3
C4B4	C – 3
C4B6	B – 2
C4C4	C – 3
C4D5	D – 3
C4D8	C – 3
C4D9	C – 3
C4E0	D – 3
C5A0	B – 4
C5A1	C – 4
C5A3	D – 5
C5A4	B – 3
C5A5	B – 2
C5A6	B – 2
C5A7	B – 2
C5B0	B – 3
C5E0	C – 5
C5E1	C – 5
C5F0	D – 5
C5F1	D – 5
C5F8	D – 5
C5F9	C – 5
C5H1	C – 6
C5U1	C – 5
C9A0	E – 1
C9A1	E – 1
C9A2	E – 2
C9A3	E – 2
CF5A0	C – 4
D901	E – 5
D902	D – 5
D903	E – 5
D904	E – 5
D905	E – 5
D906	E – 5
D907	E – 5
D908	E – 5
D913	E – 4
D914	E – 4
D915	E – 5
D916	E – 5
D917	E – 6

SYMBOL NO.	ADDRESS
D5A3	C – 4
D5B0	C – 5
D5B1	C – 4
D5B4	B – 3
D5C3	C – 4
D5C8	C – 5
D5H0	C – 6
D5J0	C – 1
D9A0	D – 1
F901	D – 2
F902	D – 4
F903	D – 5
FC11	D – 2
FC12	D – 3
FC21	D – 5
FC22	D – 4
FC31	D – 4
FC32	D – 5
IC651	A – 4
IC2A0	A – 5
IC2A1	A – 5
IC2A3	A – 1
IC2A4	A – 1
IC2A5	B – 2
IC4A0	C – 3
IC4A1	C – 3
IC4A2	D – 3
IC5A0	C – 5
IC5A2	C – 6
IC5A3	C – 5
IC5A4	C – 4
IC9A0	E – 2
J2001	C – 6
J2002	C – 7
J2003	B – 6
J2004	B – 7
Q01	A – 2
Q501	D – 6
Q502	E – 7
Q503	D – 7
Q504	E – 6
Q506	D – 7
Q508	D – 6
Q509	E – 7
Q901	E – 6
Q902	E – 6
Q903	E – 4
Q1N1	A – 2
Q2A1	A – 2
Q2A2	B – 2
Q2B1	A – 3
Q2B2	A – 3
Q2B5	A – 3
Q2B6	B – 3
Q2B8	B – 3

SYMBOL NO.	ADDRESS
Q2B9	A – 3
Q2C3	A – 5
Q2C4	B – 5
Q2C5	B – 5
Q2C8	B – 5
Q2C9	B – 4
Q2D0	B – 4
Q2D1	B – 4
Q2D4	B – 6
Q2D5	A – 6
Q2D6	B – 1
Q2D8	A – 1
Q2E1	B – 3
Q2E3	B – 4
Q2E6	C – 1
Q2E7	C – 1
Q2P0	A – 5
Q2P1	A – 6
Q2P2	A – 5
Q2P3	A – 4
Q2P4	B – 4
Q2P5	A – 5
Q2P6	A – 5
Q2P7	A – 5
Q2R2	A – 3
Q2S1	B – 3
Q2S3	B – 6
Q2X0	A – 5
Q2X1	A – 2
Q2X2	A – 3
Q2X4	A – 5
Q2X5	A – 5
Q2Y6	B – 1
Q4A1	C – 2
Q4A3	C – 3
Q4A4	C – 3
Q4A5	C – 2
Q4A7	C – 3
Q4A8	D – 3
Q4A9	B – 3
Q4E1	C – 3
Q4S0	C – 3
Q5A0	D – 4
Q5A1	C – 5
Q5A2	C – 5
Q5A3	C – 5
Q5A4	D – 4
Q5A5	C – 4
Q5A6	B – 4
Q5A8	B – 6
Q5A9	B – 5
Q5B0	C – 1
Q5B1	C – 1
Q5B2	B – 2
Q5B3	B – 5
Q5B4	B – 4
Q5B5	C – 4
Q5B6	C – 4
Q5B7	C – 1
Q5C0	B – 5

SYMBOL NO.	ADDRESS
Q5C1	D – 2
Q5C2	B – 4
Q5C3	C – 5
Q5D1	C – 5
Q5D7	A – 2
Q5D8	A – 2
Q5D9	A – 2
Q5G0	B – 2
Q5G1	B – 2
Q5G2	B – 2
Q5G3	C – 4
Q5G4	A – 2
Q5G5	A – 2
Q5G6	A – 2
Q5G7	A – 3
Q5G8	A – 3
Q5G9	A – 3
Q5H0	D – 6
Q5H2	B – 2
Q5H4	C – 5
Q5J0	C – 1
Q5J1	C – 1
Q5S0	B – 2
Q9A0	E – 1
Q9A1	E – 1
Q9A2	E – 1
Q9A3	D – 1
Q9A4	D – 1
R201	A – 5
R203	A – 5
R206	A – 5
R207	B – 3
R208	B – 4
R209	B – 4
R211	A – 4
R212	A – 4
R213	A – 4
R214	A – 3
R217	B – 1
R218	A – 5
R219	A – 3
R220	B – 3
R223	A – 3
R224	A – 3
R225	A – 4
R230	A – 1
R232	A – 2
R233	A – 2
R234	D – 1
R235	B – 3
R236	B – 1
R237	B – 1
R238	B – 3
R239	C – 1
R240	C – 2
R242	B – 3
R243	B – 3
R244	B – 5
R245	A – 5

SYMBOL NO.	ADDRESS
R246	B – 1
R247	B – 1
R248	B – 1
R249	B – 1
R250	B – 1
R251	A – 2
R252	B – 2
R253	A – 1
R254	A – 2
R256	A – 5
R503	D – 7
R505	E – 6
R506	E – 7
R508	E – 7
R509	E – 6
R510	D – 6
R511	E – 7
R512	E – 6
R513	D – 6
R523	E – 6
R527	D – 6
R528	D – 7
R530	E – 6
R532	D – 7
R534	D – 7
R535	D – 7
R536	E – 6
R537	E – 6
R538	E – 7
R539	E – 6
R540	E – 6
R544	E – 6
R545	E – 6
R547	E – 7
R548	D – 6
R549	E – 6
R550	C – 6
R551	B – 2
R551	B – 3
R552	B – 2
R553	B – 2
R554	C – 5
R555	D – 3
R556	A – 2
R557	A – 2
R558	A – 2
R559	C – 5
R560	A – 2
R561	B – 3
R562	D – 1
R565	C – 5
R566	C – 5
R567	D – 6
R569	A – 3
R570	C – 3
R571	C – 6
R572	C – 5
R573	B – 5
R574	C – 5
R575	D – 5

SYMBOL NO.	ADDRESS
R576	D – 5
R577	D – 5
R578	C – 5
R579	D – 4
R580	B – 4
R581	B – 4
R582	C – 4
R583	C – 4
R588	B – 2
R589	B – 3
R597	C – 1
R599	D – 1
R651	A – 4
R652	A – 3
R653	A – 3
R654	A – 3
R655	A – 4
R656	A – 4
R657	A – 4
R658	A – 4
R662	A – 4
R901	E – 3
R902	E – 4
R903	E – 5
R904	E – 6
R905	E – 6
R906	E – 6
R907	E – 4
R1A1	A – 2
R1A2	A – 2
R1A3	A – 2
R1A4	A – 2
R1A5	A – 2
R1A7	A – 2
R1A8	A – 2
R1M0	B – 1
R1N0	A – 2
R1N1	A – 2
R1N2	A – 2
R1N3	A – 2
R1N4	A – 2
R1N5	A – 2
R1N7	A – 2
R1N8	A – 2
R2A1	A – 2
R2A2	A – 2
R2A3	A – 2
R2A4	B – 2
R2A5	A – 2
R2A6	B – 2
R2D2	A – 3
R2D3	A – 3
R2D4	A – 3
R2D6	A – 3
R2D6	A – 3
R2D7	A – 3
R2D8	A – 3
R2E1	A – 3
R2E2	A – 3
R2E3	A – 3

SYMBOL NO.	ADDRESS
R2E5	B – 3
R2E6	B – 3
R2E7	B – 3
R2E8	B – 3
R2E9	C – 1
R2F0	C – 1
R2F1	A – 3
R2F2	B – 3
R2F3	B – 3
R2F4	B – 3
R2F5	B – 3
R2F6	A – 3
R2F7	A – 3
R2F8	A – 5
R2G0	A – 5
R2G1	A – 5
R2G2	A – 5
R2G3	A – 5
R2G4	A – 4
R2G7	A – 5
R2G8	B – 5
R2G9	B – 5
R2H1	B – 5
R2H2	B – 4
R2H3	A – 1
R2H4	B – 3
R2H5	B – 4
R2H6	B – 4
R2H7	B – 4
R2H9	B – 4
R2J2	B – 4
R2J3	B – 4
R2J4	A – 5
R2J5	A – 6
R2J6	B – 6
R2J7	B – 5
R2J8	A – 4
R2J9	A – 4
R2K1	A – 5
R2L5	A – 1
R2L6	A – 1
R2L9	A – 1
R2M0	A – 1
R2M2	A – 1
R2P1	A – 5
R2P2	A – 6
R2P3	A – 6
R2P4	A – 6
R2P5	A – 6
R2P6	A – 6
R2P7	A – 3
R2P9	B – 5
R2R1	A – 3
R2R2	B – 5
R2R4	A – 3
R2R5	B – 4
R2R6	A – 3
R2R9	B – 4
R2S1	A – 1
R2S5	A – 6

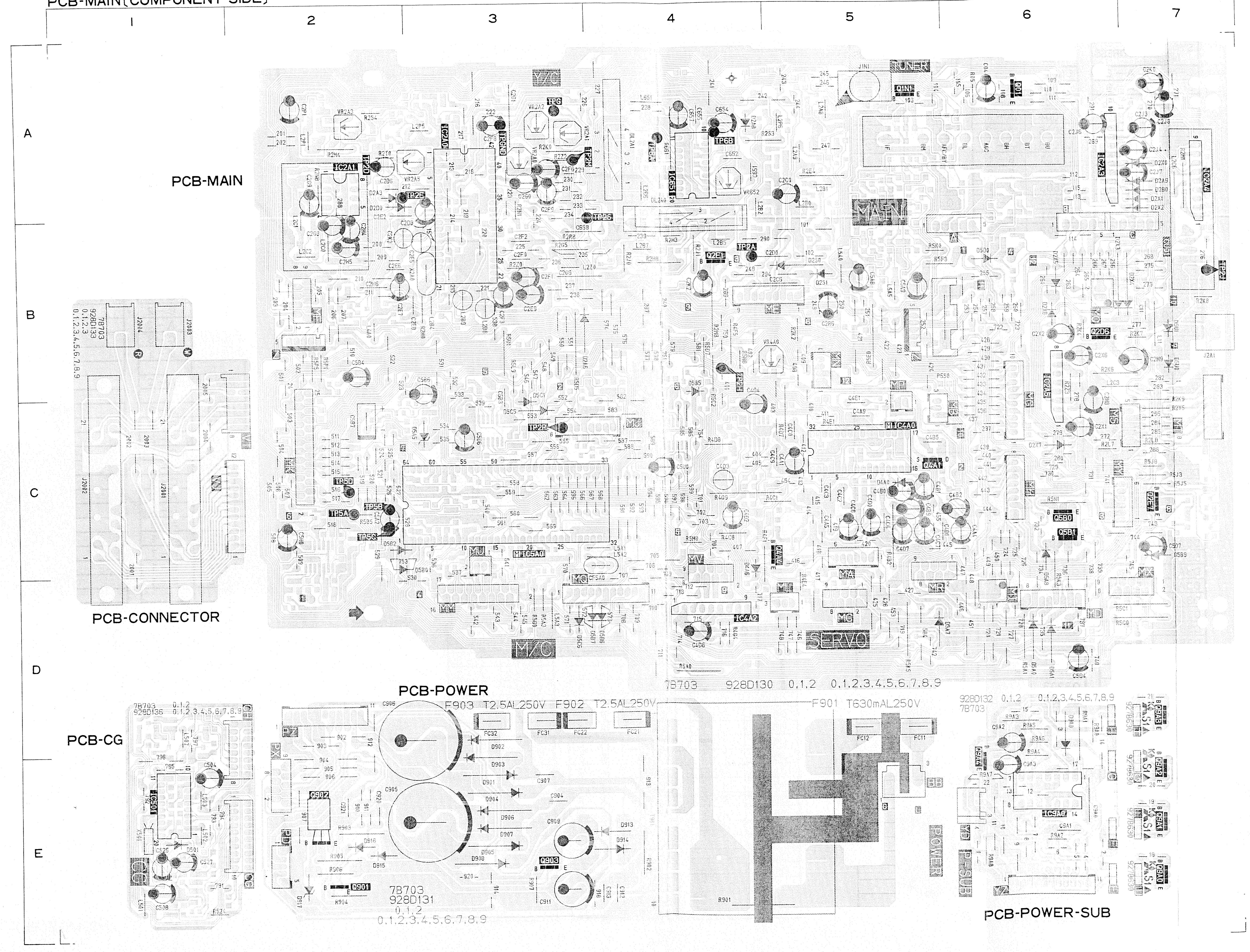
SYMBOL NO.	ADDRESS
R2T1	A – 5
R2T4	B – 5
R2T6	B – 5
R2T7	B – 6
R2X0	A – 5
R2X4	A – 5
R2X5	A – 5
R2Y0	A – 1
R2Y1	A – 1
R2Y2	A – 1
R2Y3	A – 1
R2Y4	A – 1
R2Y9	C – 1
R2Z1	C – 1
R4A1	C – 2
R4A2	C – 2
R4A3	C – 2
R4A4	C – 2
R4A5	C – 2
R4A9	C – 3
R4B0	C – 3
R4B1	C – 3
R4B3	B – 3
R4B4	C – 3
R4B5	C – 3
R4B6	C – 3
R4B7	C – 3
R4B8	C – 2
R4B9	C – 3
R4C0	C – 3
R4C2	C – 2
R4C3	C – 3
R4C4	C – 3
R4C5	C – 3
R4C9	C – 3
R4D0	C – 3
R4D1	C – 3
R4D2	C – 3
R4D3	C – 3
R4D4	C – 3
R4D5	C – 3
R4D6	C – 2
R4D9	C – 3
R4E0	D – 3
R4E2	C – 3
R4E3	B – 3
R4E5	C – 3
R4E6	D – 3
R4E7	C – 3
R4E8	C – 3
R4E9	C – 3
R4F0	B – 2
R4F2	C – 2
R4F3	C – 2
R4F4	C – 2
R4G0	D – 3
R4G1	D – 3
R4G2	D – 3
R4G3	D – 3
R4H0	D – 3

SYMBOL NO.	ADDRESS
R4H1	D – 3
R4Q1	D – 3
R4Q2	C – 3
R4R8	D – 3
R4R9	C – 2
R4S0	C – 3
R5A2	D – 3
R5A4	C – 5
R5A5	C – 5
R5A6	C – 5
R5A7	C – 5
R5A8	B – 5
R5A9	C – 5
R5B0	C – 5
R5B1	C – 5
R5B3	C – 5
R5B4	B – 2
R5B6	C – 4
R5B7	C – 5
R5B8	D – 5
R5B9	D – 5
R5C4	C – 5
R5C5	D – 5
R5C6	C – 5
R5C7	C – 5
R5C8	C – 4
R5D0	B – 4
R5D1	C – 4
R5D2	C – 4
R5D3	B – 4
R5D4	B – 4
R5D6	C – 5
R5D8	C – 4
R5D9	D – 4
R5E1	B – 3
R5E2	B – 3
R5E3	B – 3
R5E4	B – 3
R5E5	B – 2
R5E6	B – 2
R5E7	B – 2
R5E8	A – 2
R5E9	B – 2
R5F0	B – 3
R5F1	B – 3
R5F2	B – 2
R5F4	B – 2
R5F5	D – 6
R5F6	D – 6
R5F7	C – 6
R5F8	D – 6
R5F9	C – 6
R5G1	D – 5
R5G2	C – 4
R5G3	C – 4
R5G4	B – 4
R5G5	A – 3
R5G6	A – 3
R5H0	C – 6
R5H1	C – 6

SYMBOL NO.	ADDRESS
R5H2	D – 1
R5H3	C – 6
R5H4	C – 6
R5H5	D – 6
R5H6	C – 6
R5H7	C – 6
R5H8	D – 6
R5H9	D – 6
R5J0	D – 6
R5J2	B – 2
R5J4	C – 1
R5J7	B – 4
R5J9	B – 4
R5K1	B – 2
R5L4	C – 5
R5L5	B – 5
R5L6	C – 5
R5L7	C – 5
R5L8	C – 4
R5M2	D – 4
R5M3	C – 4
R5M4	C – 4
R5M5	C – 4
R5M7	C – 5
R5N0	C – 1
R5N2	B – 5
R5N3	B – 5
R5P0	B – 4
R5P2	B – 6
R5P3	C – 6
R5P4	B – 6
R5P7	A – 2
R5P8	A – 2
R5S0	B – 2
R5S2	B – 2
R5U0	C – 5
R5U2	C – 5
R5U3	B – 1
R5U4	C – 5
R5U7	A – 2
R9A0	D – 1
R9A1	D – 1
R9A2	E – 2
R9A3	D – 1
R9A4	E – 1
R9A5	D – 1
R9A6	D – 1
R9A7	E – 2
R9A8	E – 2
S2A1	D – 7
T901	E – 3
TP2A	B – 3
TP2D	A – 5
TP2E	A – 5
TP2H	B – 3
TP2J	B – 1
TP2M	A – 4

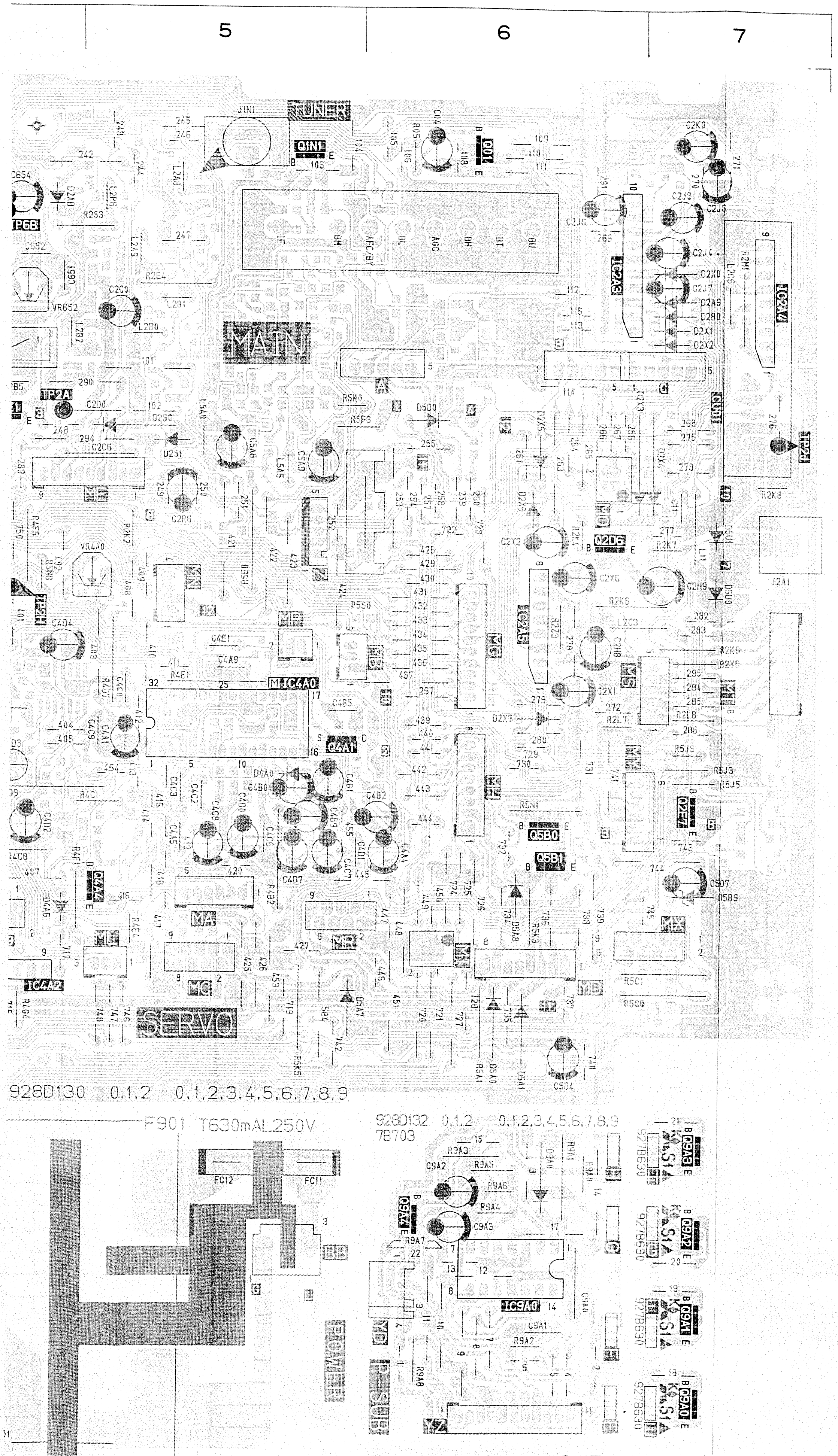
SYMBOL NO.	ADDRESS
TP2R	C – 4
TP2S	B – 4
TP5A	C – 5
TP5B	C – 5
TP5C	C – 5
TP5D	C – 5
TP6A	A – 4
TP6B	A – 3
TPG	A – 4
TPGND	A – 5
VR652	A – 3
VR2A0	A – 4
VR2A1	A – 4
VR2A2	A – 4
VR2A3	A – 5
VR2A5	A – 5
VR4A0	B – 3

PCB-MAIN〔COMPONENT SIDE〕


1
2
3
4
5
6
7
A
B
C
D
E
PCB-MAIN
Y/C
TUNER
MAIN
M/C
SERVO
PCB-CONNECTOR
7B703
928D133
0.1.2.3
0.1.2.3.4.5.6.7.8.9
7B703 928D130 0.1.2 0.1.2.3.4.5.6.7.8.9
PCB-CG
7B703
928D136
0.1.2
0.1.2.3.4.5.6.7.8.9
PCB-POWER
F903 T2.5AL250V
F902 T2.5AL250V
F901 T630mAL250V
7B703
928D131
0.1.2
0.1.2.3.4.5.6.7.8.9
POWER
P-SUB
928D132 0.1.2 0.1.2.3.4.5.6.7.8.9
7B703
PCB-POWER-SUB

PCB-MAIN〔C

SYMBOL NO.	ADDR
CF5A0	C -
CU01	A -
D501	E -
D901	E -
D902	D -
D903	E -
D904	E -
D905	E -
D906	E -
D907	E -
D908	E -
D913	E -
D914	E -
D915	E -
D916	E -
D917	E -
D2A3	A -
D2A6	B -
D2A8	A -
D2A9	A -
D2B0	A -
D2D0	A -
D2S0	B -
D2S1	B -
D2X0	A -
D2X1	A -
D2X2	A -
D2X3	B -
D2X4	B -
D2X5	B -
D2X6	B -
D2X7	C -
D4A0	C -
D4A6	C -
D5A0	D -
D5A1	D -
D5A5	C -
D5A7	D -
D5A8	C -
D5B0	C -
D5B2	C -
D5B5	B -
D5B6	D -
D5B7	D -
D5B9	C -
D5C1	C -
D5C5	C -
D5C6	D -
D5D0	B -
D5U0	B -
D5U1	B -
D9A0	D
DL2A0	B
DL2A1	A
F901	D
F902	D

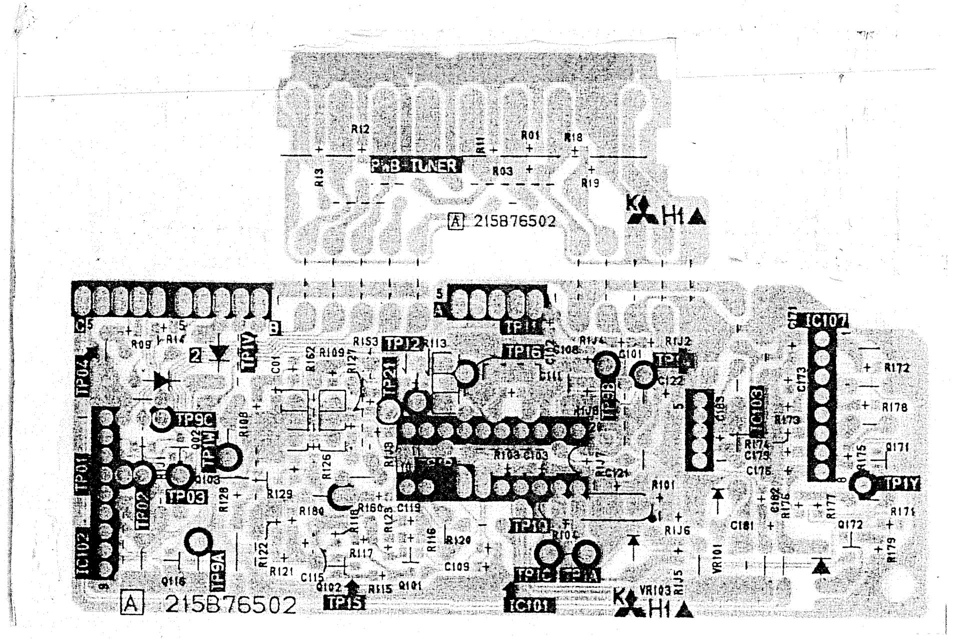

5
6
7
TUNER
MAIN
SERVO
928D130 0,1,2 0,1,2,3,4,5,6,7,8,9
F901 T630mAL250V
928D132 0,1,2 0,1,2,3,4,5,6,7,8,9
7B703
FC12
FC11
IC9A0
POWER
P-SUB

PCB-POWER-SUB

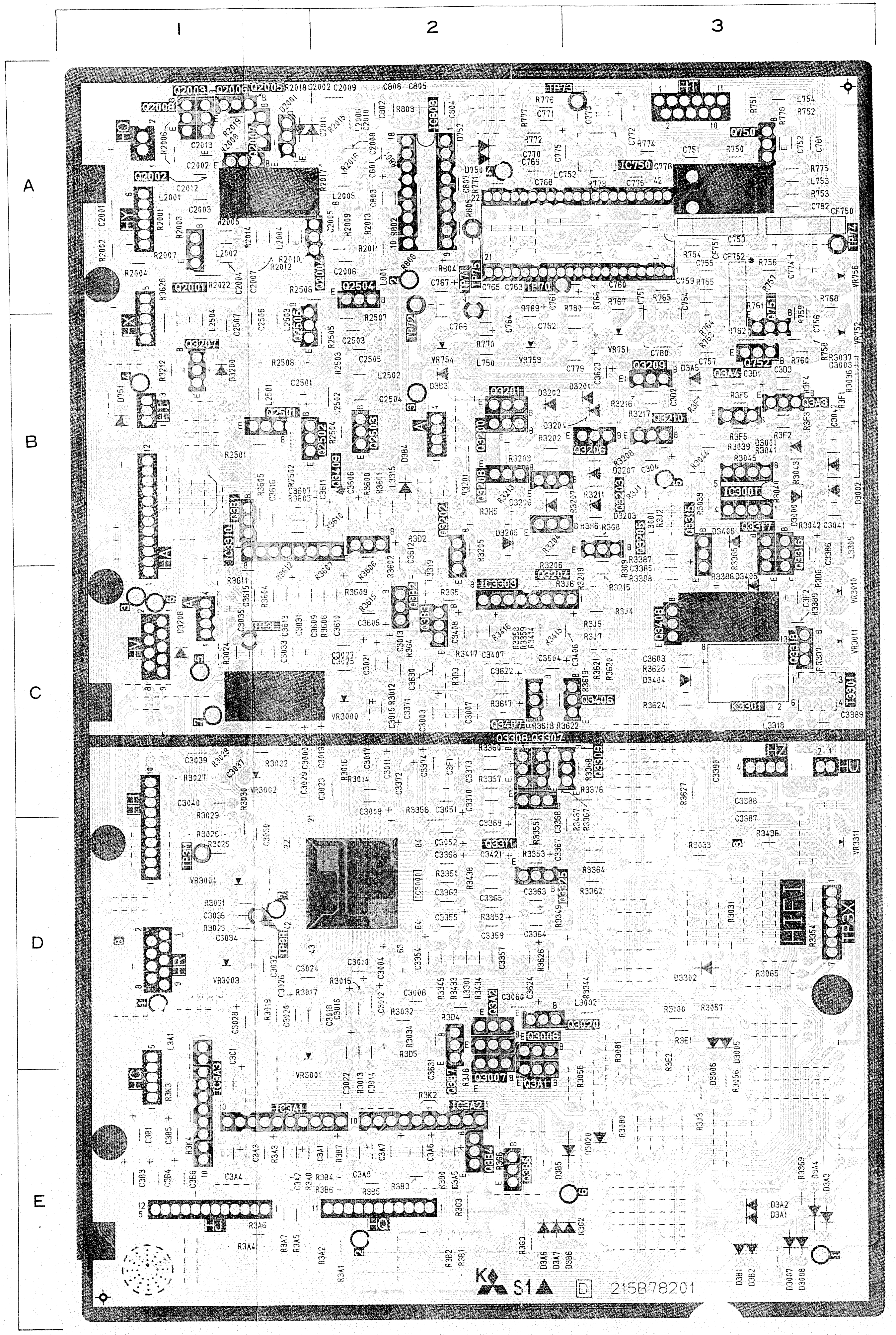
PCB-MAIN〔COMPONENT SIDE〕

SYMBOL NO.	ADDRESS
CF5A0	C – 4
CU01	A – 7
D501	E – 1
D901	E – 3
D902	D – 3
D903	E – 3
D904	E – 3
D905	E – 3
D906	E – 3
D907	E – 3
D908	E – 3
D913	E – 4
D914	E – 4
D915	E – 2
D916	E – 2
D917	E – 2
D2A3	A – 2
D2A6	B – 3
D2A8	A – 4
D2A9	A – 7
D2B0	A – 7
D2D0	A – 2
D2S0	B – 5
D2S1	B – 5
D2X0	A – 7
D2X1	A – 7
D2X2	A – 7
D2X3	B – 6
D2X4	B – 6
D2X5	B – 6
D2X6	B – 6
D2X7	C – 6
D4A0	C – 5
D4A6	C – 4
D5A0	D – 6
D5A1	D – 6
D5A5	C – 3
D5A7	D – 5
D5A8	C – 6
D5B0	C – 2
D5B2	C – 2
D5B5	B – 4
D5B6	D – 4
D5B7	D – 3
D5B9	C – 7
D5C1	C – 3
D5C5	C – 3
D5C6	D – 3
D5D0	B – 6
D5U0	B – 7
D5U1	B – 7
D9A0	D – 6
DL2A0	B – 4
DL2A1	A – 4
F901	D – 5
F902	D – 3
F903	D – 3
FC11	D – 5
FC12	D – 5
FC21	D – 4
FC22	D – 3
FC31	D – 3
FC32	D – 3
IC501	E – 1
IC651	A – 4
IC2A0	A – 3
IC2A1	A – 2
IC2A3	A – 6
IC2A4	A – 7
IC2A5	B – 6
IC4A0	C – 5
IC4A2	D – 4
IC5A0	C – 3
IC9A0	E – 6
J2001	C – 1
J2002	C – 1
J2003	B – 1
J2004	B – 1
J1N1	A – 5
J2A1	B – 7
L11	B – 7
L501	E – 1
L502	E – 1
L503	E – 1
L507	D – 1
L651	A – 4
L2A8	A – 5
L2A9	A – 5
L2B0	A – 5
L2B1	A – 5
L2B2	A – 4
L2B4	B – 3
L2B5	B – 4
L2B6	A – 4
L2B7	B – 4
L2B8	B – 3
L2B9	B – 3
L2C0	B – 2
L2C1	B – 2
L2C2	B – 2
L2C3	B – 6
L2C6	A – 7
L2P1	A – 2
L2P5	A – 3
L2P6	A – 5
L2Z0	B – 3
L4A0	B – 2
L5A0	B – 5
L5A1	C – 3
L5A2	C – 3
L5A3	D – 3
L5A5	B – 5
Q01	A – 6
Q901	E – 2
Q902	E – 2
Q903	E – 3
Q1N1	A – 5
Q2D6	B – 6
Q2E1	B – 4
Q2E7	C – 7
Q4A1	C – 5
Q4A4	C – 4
Q5B0	C – 6
Q5B1	C – 6
Q9A0	E – 7
Q9A1	E – 7
Q9A2	E – 7
Q9A3	D – 7
Q9A4	E – 6
S2A1	D – 1
T901	E – 4
TP2A	B – 4
TP2D	A – 2
TP2E	A – 2
TP2H	B – 4
TP2J	B – 7
TP2M	A – 3
TP2R	C – 3
TP2S	B – 3
TP5A	C – 2
TP5B	C – 2
TP5C	C – 2
TP5D	C – 2
TP6A	A – 4
TP6B	A – 4
TPG	A – 3
TPGND	A – 3
VR652	A – 4
VR2A0	A – 3
VR2A1	A – 3
VR2A2	A – 3
VR2A3	A – 2
VR2A5	A – 3
VR4A0	B – 5
X501	E – 1
X2A0	B – 3

PCB-TUNER


PCB-TUNER
A 215B76502
K H1
IC101
IC102
IC107
A 215B76502
K H1

PCB-HIFI/DEC



PCB-HIFI/DEC

SYMBOL NO.	ADDRESS
CF750	A – 3
CF751	A – 3
CF752	A – 3
D750	A – 2
D751	B – 1
D752	A – 2
D2001	A – 1
D2002	A – 1
D3000	B – 3
D3001	B – 3
D3002	B – 3
D3003	B – 3
D3005	D – 3
D3006	D – 3
D3007	E – 3
D3008	E – 3
D3020	E – 3
D3200	B – 1
D3201	B – 2
D3202	B – 2
D3203	B – 3
D3204	B – 3
D3205	B – 2
D3206	B – 2
D3207	B – 3
D3208	C – 1
D3302	D – 3
D3404	C – 3
D3405	C – 3
D3406	B – 3
D3A1	E – 3
D3A2	E – 3
D3A3	E – 3
D3A4	E – 3
D3A5	B – 3
D3A6	E – 2
D3A7	E – 2
D3B1	E – 3
D3B2	E – 3
D3B3	B – 2
D3B4	B – 2
D3B5	E – 2
D3B6	E – 2
IC750	A – 3
IC803	A – 2
IC3000	D – 2
IC3001	B – 3
IC3303	C – 2
IC3310	B – 1
IC3A1	E – 1
IC3A2	E – 2
IC3A3	E – 1
K3301	C – 3
L750	B – 2
L753	A – 3
L754	A – 3

SYMBOL NO.	ADDRESS
L801	A – 2
L2001	A – 1
L2002	A – 1
L2004	A – 1
L2005	A – 2
L2008	A – 2
L2501	B – 1
L2502	B – 2
L2503	B – 1
L2504	B – 1
L3001	B – 3
L3002	D – 2
L3301	D – 2
L3305	B – 3
L3315	B – 2
L3318	C – 3
L3319	C – 2
L3A1	D – 1
LC752	A – 2
Q750	A – 3
Q751	B – 3
Q752	B – 3
Q2001	A – 1
Q2002	A – 1
Q2003	A – 1
Q2004	A – 1
Q2005	A – 1
Q2006	A – 1
Q2007	A – 1
Q2008	A – 1
Q2501	B – 1
Q2502	B – 1
Q2503	B – 2
Q2504	A – 2
Q2505	B – 1
Q3006	D – 2
Q3007	D – 2
Q3020	D – 2
Q3200	B – 2
Q3201	B – 2
Q3202	B – 2
Q3203	B – 3
Q3204	C – 2
Q3205	B – 3
Q3206	B – 3
Q3207	B – 1
Q3208	B – 2
Q3209	B – 3
Q3210	B – 3
Q3307	C – 2
Q3308	C – 2
Q3309	C – 2
Q3311	C – 2
Q3315	B – 3
Q3316	B – 3
Q3317	B – 3
Q3318	C – 3
Q3325	D – 2

SYMBOL NO.	ADDRESS
Q3406	C – 2
Q3407	C – 2
Q3408	C – 3
Q3409	B – 2
Q3A1	D – 2
Q3A2	D – 2
Q3A3	B – 3
Q3A4	B – 3
Q3B1	B – 1
Q3B2	C – 2
Q3B3	C – 2
Q3B4	E – 2
Q3B5	E – 2
Q3B7	D – 2
T3301	C – 3
TP70	A – 2
TP71	A – 2
TP72	B – 2
TP73	A – 2
TP74	A – 3
TP75	A – 2
TP3L	C – 1
TP3M	D – 1
TP3R	D – 1
TP3X	D – 3
VR751	B – 3
VR752	B – 3
VR753	B – 2
VR754	B – 2
VR756	A – 3
VR3000	C – 2
VR3001	D – 1
VR3002	C – 1
VR3003	D – 1
VR3004	D – 1
VR3010	C – 3
VR3011	C – 3
VR3311	D – 3